

## On Health Research and Education in the MENA Region Transformation – Innovation – Education

April 13-16, 2026

Faculty of Medicine "Tbn Al-Jazzar" – Sousse, Tunisia

### Abstract 001: AI-generated algorithm for early detection of bipolar depression

Barouni L, Saguem Bochra N, Kilani Y, Nakhli J

University of Sousse, Faculty of Medicine of Sousse, RL12ES04, Psychiatry Department, Farhat Hached Hospital, Sousse, Tunisia

**Introduction:** This study aims to identify the sociodemographic and clinical factors associated with bipolar disorder in cases of major depressive episodes and to use those factors to establish an algorithm to facilitate diagnostic decision-making and to enable earlier detection

**Methods:** A cross-sectional analytical study was conducted in the Psychiatry Department of the Farhat Hached University Hospital in Sousse from January 2, 2024, to February 2, 2024. This study was conducted among patients treated for mood disorders, with a minimum follow-up period of three years. Data was collected during an interview using a pre-established form containing socio-demographic and clinical characteristics.

**Results:** The sample for this study included 69 patients with a sex ratio (M/F) of 0.68. Of these, 36 patients were being treated for bipolar disorder and 33 had unipolar depression. Regarding data on depressive episodes, factors associated with bipolar disorder were early age of onset ( $p=0.002$ ,  $OR=0.933$ ), total number of episodes ( $p < 10^{-3}$ ,  $OR=1.469$ ), and hospitalizations ( $p < 10^{-3}$ ,  $OR=1.533$ ).

**Conclusion:** Every characterized depressive episode requires a thorough, multidimensional assessment combining detailed clinical history, rigorous symptom evaluation, and standardized tools. The AI-generated algorithm offers a concrete, evolving, and pragmatic guide to identify patients likely to have bipolar disorder, facilitating earlier detection and more appropriate, personalized care.

### Abstract 002: Antimicrobial resistance mitigation strategy : how AI is changing the game

Mosbah A, Dhaouadi R

National School of Veterinary Medicine, Sidi Thabet, Tunisia

**Introduction:** Antibiotics are frequently used in the poultry industry, which has led to the emergence of bacterial strains that are resistant to antimicrobial treatments. The main objectives of this research were to conduct a multimodal risk assessment, to determine the extent of contamination of chicken meat with *Escherichia coli*, assess the prevalence of strains resistant to extended-spectrum cephalosporins (ESC), and characterise the genes associated with resistance and virulence.

**Methods:** A standardised procedure involving enrichment in buffered peptone water and isolation of *E. coli* on MacConkey agar was carried out on 100 chicken carcasses. Subsequently,

the sensitivity of the strains was tested against 21 antibiotic discs. Additionally, ESBL production was detected using a double synergy test. Specific PCRs were employed to identify resistance to critical antibiotics in human medicine (such as cephalosporins, carbapenems, fluoroquinolones, and colistin), as well as the presence of virulence genes. The contamination rate of chicken meat with *E. coli* was 82%.

**Results:** The prevalence of ESC-resistant isolates was 91.2%. Furthermore, 76.5% of the isolates exhibited ESBL production, with the different beta-lactamase genes (*blaCTXM*, *blaTEM*, and *blaSHV*). The *mcr-1* gene, associated with colistin resistance, was detected in four strains (5.9%). Some isolates also carried resistance genes such as *sul1*, *sul2*, *sul3*, *tetA*, *tetB*, *qnrB*, and *qnrS*. In addition, several virulence genes were detected. In our study, we were able to link the expression of AMR to the iron metabolic regulatory elements using a multimodal machine learning approach; this mechanism could be targeted to mitigate the bacteria virulence and resistance.

**Conclusion:** The high prevalence of ESBL-producing and multi-resistant *E. coli* strains in poultry presents significant human health risks, with the focus on antibiotic-resistant uropathogenic strains since poultry meat could be an important source of uropathogenic strains, underscoring the danger of hard-to-treat urinary tract infections, stressing the need for controlled antibiotic use and thorough monitoring

### Abstract 003: Assessing the Educational Environment using the DREEM Inventory in a Tunisian Medical School

Sridi C<sup>1,2,3</sup>, Aribi M<sup>1</sup>, Lassoued L<sup>1,4</sup>, Gannoun N<sup>1</sup>, Chelly F<sup>1,2</sup>, Belhadj N<sup>1,2</sup>, Fki I<sup>1,2</sup>, Maoua M<sup>1,2</sup>

1. University of Sousse, Faculty of Medicine of Sousse, Tunisia;
2. Department of Occupational Medicine, Sahloul University Hospital, Sousse, Tunisia;
3. Research Laboratory LR19SP03;
4. Department of Gynecology and Obstetrics, Farhat Hached University Hospital, Sousse, Tunisia

**Introduction:** The Educational environment (EE) is the foundation of effective medical training, influencing student behavior, well-being, and learning outcomes. As medical education systems in the MENA region undergo significant curricular reforms, continuous evaluation of the learning climate becomes essential

**Methods:** A descriptive cross-sectional study was conducted at the FMSO during the 2023-2024 academic year. The study population included medical students from the second to the sixth year (pre-clinical and clinical phases). Data were collected via an online survey using the validated French version of the DREEM inventory.

**Results:** A total of 701 students participated in the study. The overall perception of the educational environment was positive, with a median global DREEM score of 115/200 [IQR: 101-130], categorized as "more positive than negative" for 73.5% of

participants. Analysis of the subscales revealed distinct profiles: "Students' Perception of Learning" (SPL) (Median: 28, IQR: 24-32) and "Students' Perception of Atmosphere" (SPA) (Median: 27, IQR: 23-31) received the highest relative ratings, indicating a generally supportive institutional climate.

**Conclusion:** This study provides a crucial baseline diagnosis of the learning climate at a major Tunisian medical school. While the overall environment is perceived positively, the findings pinpoint critical areas for intervention, specifically the need to bolster students' academic self-confidence and social support networks. These insights are vital for informing evidence-based "Capacity Building" strategies.

#### Abstract 004: Assessment of dihydropyrimidine dehydrogenase and xanthine oxidase activities for human phenotyping in plasma

Saguem S, Mokni Y, Laouani A, Nouira M

Faculty of Medicine of Sousse, Tunisia

A reversed-phase HPLC-DAD method was developed and used to achieve the simultaneous separation and quantification of five compounds of interest in human plasma. The analyzed compounds were uracil (U), 5,6-dihydrouracil (UH?), uric acid (UA), hypoxanthine (HypX) and xanthine (X). These analytes were extracted from plasma samples spiked with 5-bromouracil (BU), which served as internal standard. Two chromatograms were recorded simultaneously with UV detection at 205 nm and 268 nm to measure plasma uracil concentration (uracilemia) and the UH?/U ratio. Each of these parameters reflects dihydropyrimidine dehydrogenase (DPD) activity and can therefore be used to screen for DPD deficiency in patients recruited for fluorouracil-based chemotherapy. The chromatogram at 268 nm also enabled quantification of the purine compounds (UA, HypX and X) and the calculation of the UA/(HypX + X) ratio. Regarding xanthine oxidase (XO) activity, we postulate that this ratio could serve as a metabolic index of XO activity, which is implicated in several oxidative-stress-related processes.

#### Abstract 005: Bridging Policy and Practice: Knowledge, Attitudes, and Barriers to Sterilization Protocols among Dental Practitioners in Tunisia

Ettoumi A<sup>1</sup>, Ghali H<sup>2,3,4</sup>, Bhiri S<sup>2,3</sup>, Ben Cheikh A<sup>2,3,4</sup>

1. Faculty of Medicine "Ibn Al-Jazzar" of Sousse;
2. Department of Prevention and Security of Care, Sahloul University Hospital, Sousse, Tunisia;
3. University of Sousse, Faculty of Medicine of Sousse, Sousse, Tunisia;
4. Research Laboratory Emerging Bacterial Resistance in Hospitals Veterinarians and the Environment and Security of Care, Sahloul University Hospital

**Introduction:** Infection Prevention and Control (IPC) is a non-negotiable cornerstone of patient safety and a pressing public health challenge in dentistry. In the Middle East and North Africa (MENA) region, adherence to sterilization standards is essential to prevent healthcare-associated

**Methods:** A sequential explanatory mixed-Methods design was adopted. Phase 1 (Quantitative): A validated, cross-sectional survey was administered to a stratified random sample of 200 dental practitioners across public and private sectors in Tunisia to measure knowledge, attitudes, and self-reported compliance with IPC standards. Phase 2 (Qualitative): Based on preliminary findings, in-depth semi-structured interviews were conducted

with a purposively selected sub-sample of 15-20 practitioners

**Results:** Preliminary findings reveal significant disparities in access to modern sterilization equipment (notably Class B autoclaves) between urban and rural clinics. A marked knowledge-practice gap emerged: practitioners demonstrate solid theoretical understanding but report inconsistent application due to workload and resource pressures. Qualitative insights highlight three dominant themes: (1) Economic constraints, reflecting maintenance costs and limited biological monitoring; (2) Structural barriers, such as the absence of standardized auditing and weak enforcement; and (3) Behavioral factors, including routine shortcuts and low perceived

**Conclusion:** The study exposes how economic, structural, and behavioral determinants collectively undermine effective IPC implementation in Tunisian dental settings. The issue extends beyond technical non-compliance to systemic public health vulnerabilities. The evidence underscores the need for context-specific, co-designed strategies-linking policy, resource optimization, and competency-based training-to strengthen sterilization practices and build safer, more resilient dental systems.

#### Abstract 006: Changing minds: A Tunisian initiative to reduce mental health stigma

Rhouma A<sup>1</sup>, Saguem BN<sup>1</sup>, Ouanes S<sup>2</sup>, Nakhli J<sup>1</sup>

1. Farhat Hached Hospital;
2. MindWell Kuwait, Kuwait City

**Introduction:** Stigma surrounding mental illness remains a major global public health concern. Negative stereotypes such as perceiving patients as dangerous, unpredictable, or difficult are widespread even among healthcare professionals. This stigmatization can lead to exclusion, misdiagnosis, and inadequate care, undermining treatment outcomes and patient recovery.

**Methods:** A quasi-experimental study was conducted among Family Medicine trainees in Sousse, Tunisia. Attitudes toward mental illness were assessed before, immediately after, and two months following a four-session educational intervention using the AQ-27, SDS, ES, and RS scales. Outcomes were analyzed through repeated-measures and multivariate ANCOVA models.

**Results:** A total of 107 family medicine trainees participated in the study, with 51 assigned to the intervention group, of whom 20 completed all four seminar sessions, and 56 in the control group, of whom 38 completed follow-up assessments. Comparative analysis between the two study groups, at baseline, revealed no statistically significant differences in mental illness stigma measures, except for the pity factor's score of the AQ-27 which was significantly higher in the control group. The educational intervention produced significant, moderate effects on the overall AQ-27 score and six of its subscales, notably those reflecting the "dangerousness" model of stigma.

**Conclusion:** This study demonstrates that a brief, structured, and interactive educational program can meaningfully reduce stigmatizing attitudes among family medicine trainees. Integrating such interventions into medical curricula could help foster more compassionate, recovery-oriented care for individuals with mental illness. Future work should explore combining educational and experiential learning strategies to reinforce long-term attitudinal change and strengthen empowerment and recovery perspectives among healthcare professionals.

### Abstract 007: DINS Socio-GENOMICS: Integrative Socio-Genomic Study of Non-Syndromic Intellectual Disabilities in Tunisia

H'mida D, Chouk H

Faculty of medicine university of sousse, Farhat HACHED university hospital, Sousse

Non-Syndromic Intellectual Disabilities (NSID) constitute a major public health, clinical, and social challenge in Tunisia, where high consanguinity rates, socio-economic disparities, and limited genomic data contribute to significant diagnostic delays and reduced access to tailored care. The DINS Socio-GENOMICS project proposes an integrated socio-genomic framework to address this gap by combining clinical phenotyping, genomic exploration, and sociological investigation into a unified analytic model. Leveraging a multidisciplinary network of clinicians, geneticists, sociologists, bioinformaticians, and community partners, the project aims to characterize the genetic, environmental, and socio-cultural determinants that shape NSID expression and patient trajectories. Seventy-one patients have been enrolled to date, undergoing extensive clinical, neuropsychological, and socio-environmental evaluations. Initial exclusion of common genetic causes including chromosomal anomalies, Fragile X syndrome, and recurrent microdeletions has enabled rigorous selection of cases for next-generation sequencing. The ongoing integration of genomic data with qualitative and quantitative sociological indicators provides an unprecedented lens into how genetic variants interact with social structures, family dynamics, education, access to care, and community environments to modulate adaptive functioning, diagnostic outcomes, and social inclusion. The development of a tailored diagnostic workflow and a Tunisian-specific NGS panel will contribute to improving diagnostic yield, reducing costs, and enhancing clinical decision-making. Ultimately, this socio-genomic approach is expected to guide optimized clinical pathways, inform public health strategies, and support inclusive policies that reduce stigma and promote equitable integration of individuals with NSID.

### Abstract 008: DRESS Syndrome: Clinical, Biological, and Pharmacological Features in 81 Patients

Maaref M, Ghariani Fetoui N, Mkhinini H, Lahouel M, Saad S, Rouatbi J, Mokni S, Aounallah A, Ghariani N, Denguezli M

Department of dermatology, Faculty of Medicine Ibn El Jazzar of Sousse, University of Sousse

**Introduction:** DRESS syndrome is a severe multisystem drug hypersensitivity reaction. Antiepileptic drugs and allopurinol are the most common causative agents. This study aims to describe the epidemiological, clinical and pharmacological profile of DRESS syndrome, in patients monitored in our

**Methods:** This is a retrospective single-center study conducted between 2006 and 2024, including patients hospitalized in our department for a DRESS syndrome with a RegiSCAR score  $\geq 2$ .

**Results:** A total of 81 patients were included (mean age 51.2 years; 58% female). Skin involvement was universal, with erythroderma observed in 32.1% of cases, frequently associated with fever (65.4%), facial edema (70.4%), and mucosal involvement (48.1%). Hypereosinophilia and liver injury occurred in 81.8% and 60.5% of patients, respectively. Severe renal impairment was reported in 35% of cases and was significantly associated with allopurinol use. Antiepileptics (34.6%) and allopurinol (25.9%) were the main causative

drugs. Disease severity correlated with age, hypertension, and diabetes, while mortality reached 3.7%.

**Conclusion:** The multivisceral involvement observed in DRESS syndrome underscores the severity of this condition, requiring prompt diagnosis and management. The causative drugs identified in our study are diverse but consistent with those described in the literature. Notably, we documented a case of hypersensitivity to terbinafine, a rare occurrence in published reports. Allergological tests should be systematically considered for all cases of DRESS syndrome, except when sensitivity to allopurinol or sulfasalazine is suspected,

### Abstract 009: Epidemiological, Clinical, and Evolutionary Profiles of NSTEMI in Diabetic Patients in the Emergency Department

Hosni D, Tlemceni M, Kchaou I, Othmani S, Hedhli H, Ouini S

Emergency department, Charles Nicolle Hospital, Tunis, Tunisia

**Introduction:** Diabetes alters the presentation of NSTEMI, often making it atypical and complicating diagnosis and management in the emergency setting. Rapid identification of these high-risk patients is essential to improving outcomes. To determine the clinical and prognostic particularities of NSTEMI in diabetic patients admitted to the emergency department.

**Methods:** We conducted a retrospective descriptive comparative study over a 19-month period in the emergency department. Patients were divided into two groups: Diabetic+ versus Non-diabetic?. NSTEMI diagnosis was based on clinical, electrocardiographic, and biological criteria. We included known diabetics and patients with a random capillary glucose level greater than 11 mmol/L.

**Results:** We included 201 patients divided into two groups: Diabetic+ (n=92) and Non-diabetic? (n=109). Median age = 62 years; sex ratio = 1.75. Significant associations were found with flattened T waves (p=0.018), infero-basal territory involvement (p=0.047), lower morphine titration (p=0.046), low diastolic blood pressure (p=0.01), higher TIMI score (p=0.007), higher HEART score (p=0.002), EDACS  $<16$  (p=0.048), higher CRUSADE score (p=0.018), elevated blood glucose (p=0.002), elevated potassium (p=0.006), and elevated total bilirubin (p=0.016).

**Conclusion:** NSTEMI in diabetic patients often presents atypically and carries a higher risk, requiring rapid detection and appropriate management.

### Abstract 010: Ethical governance and interdisciplinarity within the One Health framework: the experience of the C.R.Bt (Algeria)

Smadi MA

Biotechnology Research Center - Constantine , Algeria

The One Health concept highlights the solid link between human, animal, and environmental health, and poses complex challenges in the fields of research and governance. Recent literature shows that ethical governance, combined with an interdisciplinary approach, is essential to ensure responsible practices, the protection of human and animal subjects, the transparency of scientific research, the protection of the environment, and even the protection of societal values. Ethics committees have a central role, gathering medical, veterinary, environmental, and social skills, and supporting regional and international collaboration. The Ethics Advisory Committee of the Constantine Biotechnology Research Center (C.R.Bt, Algeria) illustrates this national approach. It evaluates projects

in biotechnology, veterinary medicine, and biological sciences, contributes to the national ethics charter, and organizes training and awareness-raising activities. Projects such as the development of veterinary or human medicines, the study of zoonoses, or the assessment of environmental impacts require collaboration between several specialties, reinforcing the transdisciplinary dimension. This experience shows how an interdisciplinary ethics committee can foster training, strengthen partnerships, and promote responsible research aligned with the One Health concept and the conference's objectives of building bridges between research and training in global health. Finally, recent discussions around One Health and the Sustainable Development Goals (SDGs) highlight the importance of regional and international collaboration, which enables the creation of strong partnerships, encourages the training of researchers, and promotes ethical, responsible, and transdisciplinary research in the service of global health. Keywords: Ethical governance, One Health, Interdisciplinarity, Ethics Advisory Committee (Algeria), Responsible research, Global health, Collaboration

### Abstract 011: Evolving Patient Centred Care: "From PDSA to S-PDSA": An Integrative Approach Using Epidemiology, Quality Improvement, and Artificial Intelligence Computing Techniques in the Pre-hospital Setting

Farhat H<sup>1,2</sup>, Alinier G<sup>2,3,4,5</sup>, Khadhraoui M<sup>6</sup>, Gargouri I<sup>7</sup>, Al Shaikh L<sup>2</sup>, Laughton J<sup>2</sup>

1. Faculty of Medicine "Ibn El Jazzar", University of Sousse, 4000, Sousse, Tunisia
2. Major Incident Preparedness and Resilience & Ambulance Service, Hamad Medical Corporation, PO Box 3050, Doha, Qatar
3. University of Hertfordshire, Hatfield, UK
4. Weill Cornell Medicine-Qatar, Doha, Qatar
5. Northumbria University, Newcastle upon Tyne, UK
6. Higher Institute of Biotechnology, University of Sfax, Sfax, Tunisia
7. Faculty of Medicine, University of Sfax, Sfax, Tunisia

**Introduction:** Weill Cornell Medicine-Qatar, Doha, Qatar 5 Northumbria University, Newcastle upon Tyne, UK 6 Higher Institute of Biotechnology, University of Sfax, Sfax, Tunisia 7 Faculty of Medicine, University of Sfax, Sfax, Tunisia Quality improvement (QI) in pre-hospital emergency medicine

**Methods:** Multiple Methods were employed, including epidemiological, time-to-event, supervised and unsupervised machine learning (ML) and text mining (TM) analyses to provide a comprehensive overview of factors affecting non-transported patient safety. First, 93,712 999-emergency calls were explored with the transport decision as the outcome variable. Second, telephonic interviews were conducted with patients who declined hospital transportation.

**Results:** The epidemiological analysis revealed a high correlation between various variables, with diabetes mellitus and hypertension being the dominant combination in both groups. Nationality emerged as a significant variable influencing time-to-transport decisions. The AdaBoost algorithm showed superior performance in predicting patient decisions. Topic modelling identified core themes, while sentiment analysis and QI tools highlighted patient satisfaction with HMCAS and concerns over waiting times in emergency departments (Figure 1).

**Conclusion:** This study's novel approach of combining QI tools with AI computing techniques provided a deep understanding of the patient experience in a pre-hospital context and built for robust QI interventions. The finding can be sustained by developing automated patient feedback based on this study's outcome explored using QI and AI.

### Abstract 012: Intentions of Migration Among Nursing Students in Central Tunisia

Chouchene A<sup>2</sup>, Jemmeli I<sup>2,3</sup>, Ghenim A<sup>1,2</sup>, Gaddour A<sup>2,3</sup>, Aloui A<sup>1,2</sup>, Bouhoula M<sup>1,2</sup>, Kacem I<sup>1,2</sup>, Kalboussi H<sup>1,2</sup>, El Maalel O<sup>1,2</sup>, Chatti S<sup>1,2</sup>

- 1 Occupational Medicine and Occupational Diseases Department, Farhat Hached University Hospital, Sousse, Tunisia
- 2 Faculty of Medicine of Sousse, Research Laboratory LR19SP03, University of Sousse, Sousse, Tunisia
- 3 Occupational Medicine and Occupational Diseases Department, Ibn El Jazzar University Hospital, Kairouan, Tunisia

**Introduction:** The migration of healthcare professionals poses challenges for health systems worldwide. Understanding the intentions of nursing students to migrate is essential for workforce planning and retention strategies, particularly in regions with limited healthcare resources. Objectif: To assess the intention to migrate among nursing students in the central region of Tunisia.

**Methods:** A cross-sectional study was conducted among nursing students in central Tunisia. Data were collected using a structured questionnaire covering socio-demographic characteristics, academic factors, professional motivations, and migration intentions. Descriptive and analytical statistics were performed using SPSS version 22.

**Results:** A total of 182 participants were included in the study. The population was predominantly female (79.10%), with a sex ratio of 0.26, and the majority (83%) were single. More than half of the students (52.70%) were enrolled in their third year of nursing studies, and 54.95% reported being satisfied with the quality of teaching and learning in their institution. While 68.70% expressed the intention to work in Tunisia, a much larger proportion (92.31%) reported plans to work abroad following graduation. Migration intentions were primarily motivated by low salaries (18.40%), the rising unemployment rate in Tunisia (16.40%), poor working conditions in hospitals (15.50%), unhealthy living conditions (11.70%), and the influence of experiences shared by nurses who had previously emigrated (9.70%).

**Conclusion:** A substantial proportion of nursing students in central Tunisia intend to migrate, primarily driven by economic and professional factors. Targeted strategies to improve working conditions, career development, and educational opportunities are needed to retain nursing graduates in the local healthcare system.

### Abstract 013: Night Work Among Women: Balancing Family and Professional Life

Kacem I<sup>1,2</sup>, Aloui A<sup>1,2</sup>, Bannour R<sup>2</sup>, Bouhoula M<sup>1,2</sup>, Marnaoui M<sup>1</sup>, Sahli J<sup>2</sup>, El Maalel O<sup>1,2</sup>, Mtiraoui A<sup>2</sup>

1. Occupational Medicine Department, Farhat Hached Teaching Hospital, Sousse, Tunisia;
2. University of Sousse, Faculty of Medicine of Sousse, 4000 Sousse, Tunisia

**Introduction:** Night work disrupts natural circadian rhythms and poses significant risks to health and social well-being, particularly for women. Although Tunisian labor law restricts night work for women and emphasizes its exceptional nature, economic and organizational pressures have led

**Methods:** A cross-sectional, descriptive, and comparative study was conducted in February 2024 among female night-shift workers at a multinational automotive safety equipment plant in Zaghouan, Tunisia. Data were collected via a self-administered questionnaire, including the validated Carlson Work-Family Conflict Scale (18 items, Likert-type).

**Results:** A total of 79 female night-shift workers have accepted to participate (response rate: 65.8%). The mean age of participants was 28.5 +/- 4.8 years; 86.1% had secondary-level education, and 48.1% were married, with 21.6% having one or more children. Night work was primarily chosen for financial reasons (40.5%) or obligation (34.5%). A striking 77.2% reported that night work negatively affected their family life, mainly due to reduced family time (39.2%) and disrupted daily routines (38%). The Work-Family Conflict Scale revealed that 78.5% felt too exhausted after work to engage in family activities, and 75.8% reported that work hours prevented them from fulfilling family responsibilities. Married women were significantly more likely than single women to report family disruption ( $p < 0.001$ ), and those in repetitive, physically demanding roles (e.g., upholstery/gainage) experienced greater fatigue and family-life interference ( $p = 0.042$ ).

**Conclusion:** These findings underscore the urgent need for protective policies such as flexible scheduling, family support measures, and health monitoring to safeguard the well-being of female night workers and promote sustainable employment practices in line with national labor regulations.

#### Abstract 014: Patterns and risk of social media use among high school students : a cross-sectional study

Ben Belgacem H, Jaballah N, Tej A, Kebaili R, Abdelbari M, Ben Guedria M, Tilouche S, Soyah N, Boughamoura L

Department of Pediatrics, Farhat Hached University Hospital, Sousse, Tunisia

**Introduction:** The widespread use of social media among adolescents raises concerns about potential overuse and its consequences on well-being and academic performance. This study aimed to describe the patterns, duration, and risk levels of social media use among high school students.

**Methods:** A descriptive cross-sectional study was conducted among 288 secondary school students aged 15-18 years. Data were collected using a structured questionnaire covering socio-academic characteristics, internet access, patterns of social media use, and the Social Media Disorder (SMD) scale.

**Results:** Participants had a mean age of 16.83 +/- 1.10 years, with a slight female predominance (55.9%). Most students (87.8%) reported home internet access, and nearly all (94.1%) used smartphones as their primary device. The most commonly used platforms were Instagram (87.5%), Facebook (85.8%), and WhatsApp (79.9%). Over 60% of respondents accessed social media several times daily, and 70% spent more than three hours per day online. Social media use before sleep was reported by 92%, with 46.6% using it for one to two hours and 40.7% for more than two hours. Moreover, 57% admitted to reconnecting during nocturnal awakenings, often for 30-60 minutes. Based on the SMD scale, 55.6% of participants exhibited risky use, while 14.2% demonstrated problematic use, and 30.2% maintained normative use.

**Conclusion:** This study highlights a high prevalence of risky and potentially problematic social media use among adolescents, characterized by extended screen time and frequent nighttime use. Preventive interventions and educational programs promoting digital balance are warranted to mitigate the psychosocial risks associated with excessive social media engagement.

#### Abstract 015: Perioperative Benefits of Hypnosis as an Adjunct to General Anesthesia in Urologic Surgery: A Randomized Controlled Trial

Ajmi M, Chrigui R, Ben Hamada H, Guellim S, Shkiri Z, Amri A, youzbechi A, kahloul M, Najja W

Sahloul University Hospital Department of Anesthesiology and Resuscitation

**Introduction:** Perioperative pain remains common and challenging to control despite available pharmacological options. Non-pharmacological approaches, particularly hypnosis, appear promising for modulating pain perception, reducing anxiety, and improving the perioperative experience.

**Methods:** This was a randomized, controlled, single-blind clinical trial conducted over four months in the urology operating theatre at Sahloul University Hospital. Thirty adult patients scheduled for parietal urologic surgery under general anesthesia (ASA  $\leq$  II) were randomly assigned to either an intervention group receiving a self-hypnosis session before induction or a control group without hypnosis.

**Results:** Thirty patients were included and allocated into two comparable groups with respect to demographics, lifestyle habits, ASA class, and preoperative anxiety level. Surgical and anesthetic durations, as well as intraoperative hemodynamic parameters (systolic and diastolic blood pressure, heart rate, oxygen saturation), remained stable and similar between groups. Postoperatively, pain intensity (VAS) decreased progressively in both groups, with a significant reduction at 24 hours in the hypnosis group ( $0.06 \pm 0.25$  vs  $0.73 \pm 0.79$ ;  $p = 0.007$ ).

**Conclusion:** In urologic surgery, self-hypnosis appears to reduce postoperative pain and anxiety, improve patient satisfaction, and decrease analgesic requirements, without compromising quality of care.

#### Abstract 016: Predictors of brain death and barriers to organ donation in north African intensive care units: a multicenter prospective study on severe coma patients

Slama I, Chouchene I

Faculty of Medicine of Sousse, University of Sousse

**Introduction:** Organ donation from brain-dead patients is a major advancement in transplantation medicine. However, challenges remain in identifying and managing potential donors. In Tunisia, low donation rates reflect both medical limitations and significant sociocultural barriers, with limited national data addressing these factors. This study aimed to describe the epidemiological, clinical, and paraclinical profiles of patients with severe coma in Tunisian intensive care units (ICUs), and to identify factors associated with progression to brain death (BD) and subsequent organ donation outcomes.

**Methods:** A pilot prospective multicenter study was conducted over one year (November 2022 - October 2023) in three Tunisian university hospitals: Sahloul and Farhat Hached (Sousse), and Mohamed Taher Maamouri (Nabeul). All ICU patients with severe coma (i.e.; Glasgow coma scale  $\leq 8$ ) requiring invasive mechanical ventilation were included. Patients were followed until BD confirmation or ICU discharge. The transplant coordination team approached families of confirmed BD patients for donation consent.

**Results:** Among 104 patients (mean age: 47 years; 76% male), 26 (25%) progressed to BD, mainly due to haemorrhagic stroke (57.7%) and traumatic brain injury (30.8%). BD was significantly

associated with male sex (odds ratio (OR)=2.63;  $p=0.047$ ), comorbidities such as arterial hypertension and/or diabetes mellitus (OR=2.63;  $p=0.041$ ), traumatic causes (5.76;  $p<0.001$ ), haemorrhagic stroke (OR=13.83;  $p<0.001$ ), and prolonged ICU stay defined as a stay exceeding 14days (OR=12.54;  $p=0.014$ ). Of the 17 confirmed BD cases, families of 12 were approached, with consent obtained in five (41.6%). Refusals (58.3%) were mainly due to concerns about body integrity, religious beliefs, and family influence.

**Conclusion:** Improved donor management, family communication, and public awareness are crucial to increasing donation rates.

### Abstract 017: Prevalence and Correlates of Suicidal Ideations Among Health Sciences Students in Sousse, Tunisia.

Halleb C, Saguem BN, Saidi Y, Nakhli J

University of Sousse, Faculty of Medicine of Sousse, RL12ES04, Psychiatry Department, Farhat Hached Hospital, Sousse, Tunisia

**Introduction:** Health sciences students face significant psychological distress due to academic rigour, clinical responsibilities, and the transition to university life, increasing their risk for suicidal behaviours.

**Methods:** A cross-sectional study was conducted in March 2022 at the Graduate School of Health Sciences and Techniques of Sousse. An exhaustive sample of 380 students from four disciplines was invited to participate. Data was collected via an online self-administered survey, which included sociodemographic items and validated scales: Suicidal Ideation Attributes Scale (SIDAS), Depression Anxiety Stress Scales-21 (DASS-21), Beck Hopelessness Scale (BHS), Pittsburgh

**Results:** The response rate was 57.4% ( $n=218$ ). The median age was 21 years, with a female predominance (83.5%). The prevalence of active suicidal ideation was 21.1%. High rates of comorbid psychopathology were identified: depressive symptoms (47.2%), anxiety (68.8%), and stress (30.3%). Furthermore, 21.6% of participants exhibited significant hopelessness, and 54.6% had poor sleep quality. Suicidal ideation showed significant positive correlations with depression scores ( $r=0.281$ ,  $p<0.01$ ), anxiety scores ( $r=0.237$ ,  $p<0.01$ ), stress scores ( $r=0.276$ ,  $p<0.01$ ), hopelessness scores ( $r=0.310$ ,  $p<0.01$ ), and sleep quality

**Conclusion:** There is a high prevalence of suicidal ideation and associated psychological distress among health sciences students in Sousse, Tunisia driven by hopelessness and poor sleep quality, as well as high rates of depression, anxiety, and stress. Notably, the academic environment also plays a role, as a negative student-teacher relationship was significantly associated with increased suicidal ideation.

### Abstract 018: Prosodic Signs of Depression in Tunisian Arabic Speech: A Neurolinguistic Pilot Toward Early Detection

Ettoumi A<sup>1</sup>, Bouchhioua N<sup>2</sup>

1. FLAH, Manouba, Tunisia. -PhD student in Health Sciences, Doctoral School "Health and Sciences", Faculty of Medicine "Ibn Al-Jazzar" of Sousse, Sousse, Tunisia;

2. FLAH, University of Manouba, Tunisia

**Introduction:** Depression remains under-detected in many Arabic-speaking communities, partly due to cultural stigma and limited access to objective diagnostic tools. Because speech

directly mirrors affective and neurophysiological states, it offers a non-invasive route for early detection.

**Methods:** A mixed exploratory design is being implemented. Participants include adults clinically diagnosed with Major Depressive Disorder and age- and gender-matched controls, all native speakers of Tunisian Arabic. They are recruited by convenience and snowball sampling from multiple regions of Tunisia through a public call disseminated across the investigator's networks.

**Results:** Early analyses reveal consistent prosodic flattening among depressed participants-characterized by narrower F0 range, lower mean intensity, and longer pauses compared with controls. Initial ToBI annotations indicate fewer high pitch accents (H\*) and simplified boundary tones (L%). These emerging patterns suggest measurable monotony and temporal slowing that correlate with higher BDI-II scores.

**Conclusion:** Preliminary findings support the hypothesis that prosodic features mirror affective and cognitive load in depressive speech. By linking linguistic metrics with psychiatric evaluation, this work advances a feasible, low-cost screening pathway for Arabic-speaking populations. Ongoing recruitment and modeling aim to refine acoustic parameters and validate them across dialects, reinforcing the bridge between language science and mental-health diagnostics. Keywords: Depressive Disorders; Speech acoustics; Voice emotion recognition; Phonetics; Biomarkers; Tunisia.

### Abstract 019: The Relationship Between Interpersonal Communication and Work Organization in Operating Rooms of Two University Hospitals in Sousse: A Descriptive Cross-Sectional Study

Bannour B<sup>1</sup>, Fhal A<sup>2</sup>, Zaag N<sup>3</sup>, Salah O<sup>3</sup>, Abbes F<sup>3</sup>, Bannour I<sup>1</sup>

1. University of Sousse, Farhat Hached Hospital, Department of Gynecology and Obstetrics, Research Laboratory LR12ES03,4002, Sousse Tunisia;

2. University of Sousse, Farhat Hached Hospital, Department of Gynecology and Obstetrics, Sousse Tunisia;

3. Higher School of Health Sciences and Techniques of Sousse

**Introduction:** Interpersonal communication plays a crucial role in the organization of work within operating rooms, enabling smooth coordination among paramedical team members. Clear and effective communication is essential to ensure patient safety and optimize surgical outcomes.

**Methods:** A descriptive cross-sectional study was conducted from November 20, 2024, to May 20, 2025, in the university hospital centers of Sousse. Data were collected using a validated self-administered questionnaire.

**Results:** The study included 133 paramedical staff members, comprising 107 women (80.46%) and 26 men (19.54%), with a male-to-female ratio of 0.24. Regarding knowledge, 75.93% of participants reported being aware of interpersonal communication, although 57.9% had never received formal training in this area. Among those trained, 62.5% considered the training insufficient. About 68% of respondents rated communication quality in the operating room as important or very important, yet 57.9% experienced communication difficulties. Communication challenges were mainly due to poor coordination (33.77%), non-verbal barriers (25.97%), and workplace stress (23.38%). Verbal communication predominated (77.44%). Improvement strategies included clear regular exchanges, advance planning, and active listening. Nearly half reported communication-related delays or task misallocation. Although communication during surgery was generally effective, information transfer issues and

interruptions persisted. Team cohesion was often partial, and most participants requested training in conflict management and communication skills.

**Conclusion:** Interpersonal communication represents a cornerstone of work organization in the operating room. It fosters coordination and team cohesion, both of which are essential for enhancing the quality and safety of patient care. Strengthening communication skills among health professionals should therefore be a strategic priority to improve surgical team performance and patient outcomes

### Abstract 020: The Tunisian EIOS-based digital intelligence model for early warning and response, July-September 2025

Gara E<sup>1</sup>, Dhaouadi S<sup>2</sup>, Letaief H<sup>2</sup>, Hechaichi A<sup>2</sup>, Safer M<sup>2</sup>, Derouich S<sup>3</sup>, Bouabid L<sup>3</sup>, Boutiba I<sup>1</sup>, Mhadhbi R<sup>1,3</sup>, Fitouri S<sup>1</sup>, Fourati A<sup>1</sup>, Ben Youssef F<sup>1,3</sup>, Bouafif ép Ben Alaya N<sup>2</sup>

1. National Observatory of Emerging and Reemerging Diseases, Tunis, Tunisia;
2. National Observatory of Emerging and Reemerging Diseases, Tunis, Tunisia
3. University of Tunis El Manar, Faculty of medicine of Tunis, Tunisia; National Observatory of Emerging and Reemerging Diseases, Tunis, Tunisia

**Introduction:** Early detection of public health threats is vital for timely preparedness and response. To reinforce global health security, WHO launched the Epidemic Intelligence from Open Sources (EIOS) platform in 2017 designed to detect potential health risks from open

**Methods:** The National Observatory for New and Emerging Diseases (ONMNE), in collaboration with WHO/EMRO, implemented since 2021 the EIOS platform, in Tunisia. A rotating team of trained public health professionals from ONMNE conducted a daily screening of multiple information sources. AI tools were employed to support the process, including keyword extraction and boards categorization.

**Results:** Between July 1 and September 30, 2025, 80% (n=57) of detected signals originated from international sources, and 25% (n=18) were captured via web-based media. Eighty-eight per cent of events were of biological nature, with vector-borne diseases representing 30% (notably West Nile Virus, Dengue, and Chikungunya), following by acute respiratory infections 12% (including COVID-19 and avian Influenza). In addition, intoxications accounted for 31% of the detected events. Operational evaluation highlighted high engagement and consistent use of the platform at national level

**Conclusion:** EIOS implementation in Tunisia demonstrates the value of AI in epidemic intelligence. By enabling early signal detection and multisectoral information sharing, it strengthened national response capacity within a One Health framework. Expansion to subnational levels and integration into broader health intelligence are recommended.

### Abstract 021: A Call to Action: The High Burden of Musculoskeletal Disorders Among Office Workers in Sousse, Tunisia

Ghammam R<sup>1</sup>, Zendah B<sup>2</sup>, Layouni S<sup>3</sup>, Dhmayed F<sup>1</sup>, Benltaief N<sup>4</sup>, Jemmali D<sup>2</sup>, Ammar H<sup>2</sup>, Ammar H<sup>2</sup>, Mrabet H<sup>2</sup>, Thabet H<sup>2</sup>

1. Department of Community and Preventive Medicine, LR19SP03, University Hospital Farhat Hached, Faculty of Medicine of Sousse, University of Sousse;
2. Occupational Medicine Group Sousse, Tunisia;
3. Department of Physical Medicine and Rehabilitation, Sahloul

University Hospital, Sousse, Faculty of Medicine of Sousse, University of Sousse;

4. Occupational Medicine Group Sousse

**Introduction:** The rising global prevalence of musculoskeletal disorders (MSDs) represents a major occupational health challenge, leading to significant disability and economic costs. These conditions are not merely the result of physical stress; they arise from a complex interaction of

**Methods:** We performed a cross-sectional analytical study on occupational health in a private company located in the Sousse region of Tunisia. The study took place over the 2024-2025 period. Before starting, we secured the necessary management approval and obtained informed consent from all participants. Data collection was conducted from December 2024 to March 2025.

**Results:** Our study included 303 office workers with an average age of 35.7+/-7 years. The majority of participants were male (58.7%). The point prevalence of musculoskeletal disorders (MSDs) was 47.5%, with the most common sites of pain being the lower back (28.1%) and the neck (23.4%). Multivariate analysis identified several factors that were independently associated with the presence of MSDs.

**Conclusion:** This study highlights the substantial burden of musculoskeletal disorders (MSDs) on office workers in Tunisia, emphasizing the critical role that psychosocial factors play in their development. The high prevalence observed reinforces the need for a comprehensive public health strategy. Our findings suggest that effective prevention must extend beyond traditional ergonomic adjustments to include measures that address workplace stress, work-life balance, and psychosocial support.

### Abstract 022: Predictors of clinical and patient reported outcomes of breast reconstruction following mastectomy in a middle-income tunisian setting : exploratory results

Nadia Amara, Emna Ben Hmouda ,Mahdhi Nidhal, Lassoued Latifa

Faculty of Medicine of Sousse, University of Sousse, Tunisia;

**Introduction:** Breast reconstruction following mastectomy is a critical component of breast cancer care, influenced by various clinical, psychological, and surgical factors. Despite advancements in techniques and a growing focus on patient-reported outcomes (PROs), gaps remain in understanding the predictors of complications and satisfaction with reconstruction.

**Methods:** This retrospective analysis included 48 women who underwent breast reconstruction following mastectomy over a 13-year period. Data were collected from the Gynecology and Obstetrics and Plastic Surgery and Burns departments of two public hospitals in Sousse, Tunisia. Key outcomes were assessed using the BREAST-Q scale, and statistical analyses were performed to determine associations between various factors—such as age, comorbidities, timing of reconstruction, and reconstruction type and postoperative complications and PROs.

**Results:** reconstruction type emerged as an important predictor of late complications (p = 0.05). Key findings revealed a strong association between satisfaction with breasts and psychosocial well-being, as well as between physical well-being and satisfaction with breasts. Factors including age at reconstruction, comorbidities, and satisfaction with breasts predicted sexual well-being, while physical well-being was influenced by satisfaction with breasts, timing of reconstruction, and nipple-areola complex reconstruction.

**Conclusion:** Our study highlights the necessity of a comprehensive, patient-centered approach to breast

reconstruction that considers both clinical and psychosocial factors. Although some previously identified risk factors were not confirmed in our cohort, the findings underscore the need for personalized treatment plans and ongoing support. Future research should focus on broadening sample scopes, and exploring longitudinal outcomes to further improve understanding and care in breast reconstruction.

### Abstract 023: Irregular Migration Journey and Health of Returning Tunisian Migrants: A Qualitative Study

Touzi R<sup>1</sup>, Garnaoui W<sup>2</sup>, Ben Dhiab M<sup>1</sup>

1. Faculty of Medicine of Sousse, University of Sousse, Sousse, Tunisia
2. University of Sousse, Sousse, Tunisia
3. Department of forensic medicine, Farhat Hached university hospital, Sousse, Tunisia.

**Introduction:** Irregular migration is a major public health concern. Migrants with irregular status face multiple health risks throughout their migration journey. However, the health of returning migrants remains poorly documented, particularly in Tunisia. This study aimed to explore the experiences of returning Tunisian migrants and examine the impact of irregular migration on their health.

**Methods:** An exploratory qualitative study was conducted using an inductive approach. Semi-structured individual interviews were carried out with 18 returning Tunisian migrants recruited through purposive and snowball sampling. Interviews were conducted in the Tunisian dialect and analyzed using Braun and Clarke's reflexive thematic analysis.

**Results:** Four main themes emerged: (1) before migration, (2) during migration, (3) the return process, and (4) an unfinished return. Before migration, participants were motivated by aspirations for a better life despite socioeconomic hardship and psychological vulnerability. During migration, they reported extreme living conditions, violence, insecurity, and traumatic experiences, leading to significant deterioration in physical and mental health. Return was perceived as an ambivalent experience, characterized by initial relief followed by reintegration difficulties, psychological distress, and, in some cases, trauma related to forced return. The final theme reflected persistent disillusionment, adaptation challenges, and continued aspirations to migrate again. Overall, the findings indicate a cumulative negative impact of the migration journey on health and highlight substantial psychological, social, and economic support needs.

**Conclusion:** Comprehensive support strategies tailored to returning migrants are needed to improve their health and facilitate successful reintegration.

### Abstract 024: Effectiveness of E-Education for Teaching Evidence-Based Practice to Healthcare Students: A Literature Review

Ben Khelifa G

University of Sousse, Tunisia

**Introduction:** Evidence-Based Practice (EBP) is a cornerstone of high-quality healthcare and an essential competency for healthcare professionals. Integrating EBP into health professions education is therefore critical to ensure that future practitioners are able to make informed clinical decisions based on the best available scientific evidence, clinical expertise, and patient preferences.

**Methods:** A literature review was conducted to identify studies

evaluating digital or online educational interventions designed to teach EBP to healthcare students. Searches were performed in major electronic databases including PubMed, Cinahl, and Google Scholar using combinations of keywords such as "e-learning," "e-education," "Evidence-Based Practice," and "healthcare students." Eligible studies included those focusing on undergraduate or graduate students in health-related disciplines and reporting

**Results:** The reviewed studies indicate a growing body of research exploring digital approaches to EBP education. Educational strategies included digital problem-based learning via online communities, asynchronous web courses hosted on university platforms, interactive e-modules and clinically integrated e-learning, and web-based experiential or self-directed training tools. Overall, findings suggest that e-education reliably improves EBP knowledge and methodological skills among healthcare students, particularly in areas such as literature searching, critical appraisal, and interpretation of research evidence.

**Conclusion:** E-education appears to be a promising strategy for strengthening core EBP competencies among healthcare students, particularly in improving knowledge and analytical skills. While effects on attitudes are generally positive but variable, evidence supporting sustained changes in practice remains limited. Further investigation is required to identify which digital educational strategies are most effective in promoting sustained application of EBP in clinical settings.

### Abstract 025: Access to Healthcare for Migrants in Tunisia: Challenges and Perspectives in Preventive Health

Graiet R, Kouada R, Anane S, Meddeb O, Makni C, Ben Dhiab M

Department of Forensic Medicine, Farhat Hached University Hospital, Sousse

**Introduction:** The Department of Forensic Medicine, Farhat Hached University Hospital, Sousse Migration has become a growing determinant of health worldwide. Tunisia, situated at the crossroads of Africa and Europe, is experiencing increasing migratory flows, with individuals either in transit

**Methods:** This work provides a comprehensive assessment of migrants' healthcare access in Tunisia through a critical analysis of national legal and institutional frameworks, complemented by field observations and reports from governmental and non-governmental organizations involved in migrant health.

**Results:** The analysis highlights multiple interrelated obstacles as in the absence of a clear legal framework ensuring healthcare rights for migrants, the lack of information regarding available services, an extreme socio economic vulnerability, the social stigmatization and a weak coordination among institutional and civil society stakeholders. These combined factors contribute to disrupted medical follow-up and limited use of preventive and curative healthcare services by migrants, perpetuating health inequities.

**Conclusion:** Migration should be recognized as a core dimension of public health policy in Tunisia. Developing inclusive and coordinated national strategies that integrate migrants into preventive healthcare programs is essential to reducing health disparities and strengthening the country's overall public health resilience. Ensuring equitable healthcare access for migrants is not only a humanitarian imperative but also a crucial component of sustainable public health policy.

### Abstract 026: Allergic Contact Dermatitis to Lanolin in an Occupational Dermatology-Allergology Unit

Chouchane A<sup>1,2</sup>, Jemmeli I<sup>2,3</sup>, Ghnim A<sup>1,2</sup>, Tebourbi Y<sup>1,2</sup>, Sridi C<sup>2</sup>, Gaddour A<sup>2,3</sup>, Aloui A<sup>1,2</sup>, Ben Fredj S<sup>2,4</sup>, Ghammem R<sup>2,4</sup>, Chatti S<sup>1,2</sup>

1. Occupational Medicine and Occupational Diseases Department, Farhat Hached University Hospital, Sousse, Tunisia;
2. Faculty of Medicine of Sousse, Research Laboratory LR19SP03, University of Sousse, Sousse, Tunisia;
3. Occupational Medicine and Occupational Diseases Department, Ibn El Jazzar University Hospital, Kairouan, Tunisia;
4. Department of community and preventive medicine, Farhat Hached University Hospital, Sousse, Tunisia

**Introduction:** Lanolin is a complex mixture used for therapeutic and cosmetic purposes because of its emollient and emulsifying properties. However, its allergenic potential has been a subject of controversy. The aim of this study was to describe the sociodemographic and occupational characteristics of patients with allergic contact dermatitis (ACD) to lanolin.

**Methods:** We conducted a descriptive cross-sectional study over a 28-year period, including all individuals consulting the dermatology-allergology unit of the Occupational Medicine Department at Farhat Hached University Hospital of Sousse for the investigation of ACD and presenting a positive patch test to lanolin from the European Standard Battery (ESB).

**Results:** A total of 43 cases of lanolin sensitization were identified. The sex ratio (M/F) was 1.19. The mean age was 38.44 +/- 12.5 years. The most common initial site of involvement was the hands. Personal history of cutaneous and respiratory allergy was noted in 10 and 12 patients, respectively. A family history of atopy was reported in 17.8% of cases. The most frequent clinical aspects were erythematovesicular lesions (32.2%) and oozing dermatitis (18.9%). The most affected occupational sector was construction and public works. Six patients were officially recognized as having an occupational disease related to ACD.

**Conclusion:** Lanolin remains a common allergen, and the occupational origin of lanolin-induced ACD should be considered when evaluating exposed workers.

### Abstract 027: A Synergy for a Healthy Environment-Genetic Mapping, Predictive Modeling, and Eco-Friendly Solutions against Antimicrobial Resistance in Aquatic Ecosystems

Jendoubi I, Azaiez S, Metibaa M, El kantaoui M, Bouhlel NE, Ayari S, Bouaziz Y, Ben Fredj M, Mansour W

Faculty of Medicine of Sousse

**Introduction:** Antibiotic resistance (AMR) is a major global public health threat, driven by the increasing spread of multidrug-resistant bacteria (MDRB) and antibiotic resistance genes (ARGs) in the environment. Aquatic environments serve as critical reservoirs for these ARGs, facilitating their transfer between microbial communities and their dissemination to humans and ecosystems. This study aims to map the diversity, abundance, and spatial distribution of ARGs across various water compartments, including wastewater, surface water, and agricultural water. To achieve this, we will employ targeted qPCR and next-generation metagenomic sequencing (NGS) approaches to identify and quantify the ARGs present. In a second phase, predictive models based on machine learning will be developed and trained to determine the environmental, physicochemical, and microbiological factors that influence the presence and dissemination of ARGs. Finally, the project will

assess the effectiveness of innovative ecological solutions, such as phytoremediation, in reducing ARG and MDRB loads through in situ or simulated experiments. The Results will enable the development of a conceptual model for environmental monitoring and intervention, designed to be integrated into public policies for managing environmental AMR risks.

### Abstract 028: Use of artificial intelligence algorithms and mixed effects models to analyze educators' and students' perceptions and attitudes towards objective structured clinical examinations

Ben Amor A<sup>1</sup>, Farhat H<sup>2</sup>, Ounallah A<sup>3</sup>, Bouallegue O<sup>4</sup>, Ben Dhiab M<sup>3</sup>

1. Higher School of Health Sciences and Technology, Sousse;
2. Major Incident Preparedness and Resilience and Ambulance Service Group;
3. Faculty of Medicine "Ibn El Jazzar", University of Sousse, Sousse, Tunisia;
4. Microbiology Laboratory, Hygiene and Critical Care Departments, Academic Hospital of Sahloul, Sousse, Tunisia

**Introduction:** Implementing the Objective Structured Clinical Examinations (OSCEs) in Tunisian medical education represented an advancement following their Introduction during the COVID-19 pandemic. While traditional statistical **Methods** have been used to analyse OSCE satisfaction globally, limited research employed advanced analytical techniques, especially in low-resource settings where various variables

**Results:** The SML demonstrated robust predictive accuracy for satisfaction categories (students: 78%, professors: 88%) with strong reliability (kappa values 0.65 and 0.75). UML identified three distinct satisfaction clusters, with the highest satisfaction cluster showing a mean score of 3.82+/-0.34. LMEM revealed that student satisfaction increased with age (beta=0.041), whilst professor satisfaction correlated negatively with age (beta=-0.017) but positively with teaching experience (beta=0.016). Emergency Medical Care consistently demonstrated higher satisfaction levels among students.

**Conclusion:** Integrating advanced analytical Methods provided a more profound understanding of OSCE satisfaction patterns compared to traditional statistical approaches. The findings suggest that multiple demographic factors influence OSCE satisfaction, necessitating context-specific approaches rather than universal solutions. These Results have important implications for medical education practice, suggesting the need for differentiated approaches to OSCE implementation based on student speciality and educator experience levels.

### Abstract 029: Artificial Intelligence in the Operating Room: Anesthesiologists' Perceptions and Preparedness

Chrigui R, Kahloul M, Ajmi M, Mhamdi S, Kissi K, Gharbi R, Ben Hamada H, Missaoui E, Khedher H, Kahloul M, Melayeh S

Anaesthesia and Intensive Care Department, University Hospital Sahloul;

**Introduction:** Anesthesia is a crucial medical specialty where every second counts. The decisions made by healthcare professionals can have a significant impact on patients' survival and recovery. In this context, Artificial Intelligence (AI) is emerging as a promising tool to support and enhance anesthesia practice.

**Methods:** This was a descriptive quantitative study conducted in the anesthesia and intensive care departments of CHU Sahloul and CHU Hached, Sousse, over a two-month period (February-March 2025).

**Results:** Our study examined the perceptions of anesthesia professionals regarding the use of Artificial Intelligence (AI) in their field. The Results revealed that while most participants were familiar with the concept of AI, few considered themselves experts. Participants perceived AI as a means to improve anesthesia care, particularly in terms of diagnostic accuracy and reducing medical errors. However, concerns were raised about algorithmic bias and data security. Respondents also emphasized the need for training to effectively use AI tools in anesthesia. Regulation of AI use in anesthesia was deemed important to ensure safety and efficiency. Communication and coordination within the medical team were perceived as potentially enhanced by AI, though some concerns were expressed about a possible distancing effect from patients. The most useful AI tools identified were clinical decision support systems, real-time data analysis, and patient monitoring.

**Conclusion:** The use of AI in anesthesia is perceived as having significant potential to improve care, especially in terms of diagnostic accuracy, quality of care, and error reduction. However, participants also expressed concerns regarding algorithmic bias and data security.

### Abstract 030: Artificial Intelligence-Based Prediction of Isocyanate-Induced Occupational Asthma in the Automotive Industry

Sridi C<sup>1</sup>, Kacem I<sup>2</sup>, Maoua M<sup>1</sup>

1. Medical Commission of Occupational Accidents and Diseases, University Hospital Sahloul
2. Medical Commission of Occupational Accidents and Diseases, University Hospital Farhat Hached

**Introduction:** Occupational asthma (OA) is one of the most prevalent occupational respiratory diseases and accounts for an estimated 10-25% of adult asthma cases. Among occupational sensitizers, isocyanates remain the leading chemical cause of OA worldwide, particularly in industrial sectors such as automotive manufacturing, polyurethane production, and spray painting. Despite preventive efforts, early identification of workers at risk remains challenging. Traditional surveillance strategies often rely on the detection of symptoms after disease onset.

**Methods:** A case-control study will be conducted among workers exposed to isocyanates in an automobile steering wheel manufacturing company in Nador (Zaghouan, Tunisia) between 2010 and 2025. Cases will include workers diagnosed with isocyanate-induced OA according to the Tunisian consensus diagnostic criteria, based on clinical assessment and respiratory functional testing. Controls will be workers exposed to isocyanates in the same company but without allergic disease and with normal spirometry Results. Data will be collected using a standardized questionnaire covering sociodemographic characteristics, lifestyle factors (including smoking and physical activity), occupational exposure variables, and medical history such as atopy, rhinitis, and respiratory symptoms. Statistical analysis will include descriptive and bivariate analyses to identify potential risk factors, followed by multivariate logistic regression to determine independent predictors of OA. In parallel, several machine learning algorithms will be implemented to develop predictive models, including decision trees (CART), Random Forest, Naïve Bayes, Support Vector Machines, and Extreme Gradient Boosting (XGBoost).

### Abstract 031: Assessing Nursing Students' Satisfaction with Team-Based Learning (TBL) as a Teaching Method

Houichi I<sup>1</sup>, Ajmi M<sup>1</sup>, Youzbechi A<sup>1</sup>, Naouar N<sup>1</sup>, Ben Salem F<sup>1</sup>, Khiareddine

A<sup>1</sup>, Aridhi W<sup>1</sup>, Dahmane S<sup>2</sup>, Chaouch A<sup>1</sup>, Naija W<sup>1</sup>

1. Department of Anesthesia and Intensive Care Sahloul University Hospital, Sousse, Tunisia;
2. Higher School of Health Sciences and Technologies of Monastir

**Introduction:** Innovative teaching approaches in nursing education aim to enhance student engagement, promote active learning, and develop the professional skills required in clinical practice. Among these, Team-Based Learning (TBL) encourages critical thinking, collaboration, and learner autonomy.

**Methods:** A descriptive cross-sectional study was conducted among nursing students at the Private University of Health Sciences during the 2024-2025 academic year. The TBL session focused on the management of severe traumatic brain injury. Data collection relied on two questionnaires: the first assessed theoretical knowledge before (iRAT) and after (TRAT) team discussions, while the second measured student satisfaction and perceptions of TBL.

**Results:** Ninety-eight students participated (response rate: 68.5%), with a mean age of 21.8 +/- 2.28 years. A significant improvement in knowledge scores was observed between the individual and group tests (iRAT: 4.31 +/- 2.03 vs. TRAT: 6.05 +/- 1.02; p = 0.001). Overall satisfaction was high (91.8% satisfied or very satisfied). Most students described TBL as stimulating, interactive, and conducive to learning: 95.9% viewed it as a relevant assessment method, 94.9% expressed interest in further sessions, and 93.9% recommended extending

**Conclusion:** Team-Based Learning was both effective and well-received by nursing students, fostering better knowledge retention, teamwork, and motivation. Its positive impact supports wider integration of TBL into nursing curricula to strengthen active learning and prepare future healthcare professionals with enhanced critical thinking and collaboration skills.

### Abstract 032: Assessing Students' Perception of Bedside Teaching as a Clinical Learning Tool: insights from a survey at the Faculty of Medicine of Sousse, Tunisia

Bannour B<sup>1</sup>, Bannour R<sup>2</sup>, Ben saad OK<sup>2</sup>, Fhal A<sup>3</sup>, Bannour I<sup>1</sup>

1. University of Sousse, Farhat Hached Hospital, Department of Gynecology and Obstetrics, Research Laboratory LR12ES03,4002, Sousse Tunisia;
2. University of Sousse, Faculty of Medicine of Sousse, Department of Community Medicine, , Research Laboratory LR12ES03,4002, Sousse Tunisia;
3. University of Sousse, Farhat Hached Hospital, Department of Gynecology and Obstetrics, Sousse Tunisia

**Introduction:** Bedside teaching (BST) is a cornerstone of clinical medical education, providing students with the opportunity to integrate theoretical knowledge with patient-centered clinical skills. Despite its recognized educational value, perceptions of BST can vary according to instructional quality, organizational

**Methods:** A cross-sectional study was conducted among 4th-year medical students using a structured questionnaire. The survey included Likert-scale items exploring four main domains: (1) pedagogical relevance of BST, (2) communication and interaction, (3) organizational aspects, and (4) overall evaluation and satisfaction.

**Results:** The majority of students perceived the BST positively, with 48 students (75%) considering it a useful method for learning medical skills. Regarding the effectiveness of the BST for learning how to conduct a structured history, 44 students (69%) agreed, and 2 students (3%) strongly agreed. The BST was also considered effective for acquiring the skills necessary for

a correct physical examination by 44 students (69%). Regarding organizational relevance, 20 students (31%) considered that the time allocated to the sessions was sufficient, while 24 students (38%) considered that the number of students present allowed for active participation. In terms of overall satisfaction, 22 students (34%) were satisfied with the sessions, and 2 (3%) were completely satisfied, 36 students (56%) would like more BST sessions to be integrated into their training and 30 students (47%) would recommend this method as an essential element of clinical learning.

**Conclusion:** Fourth-year medical students generally perceive bedside teaching as a valuable and effective educational approach that enhances clinical competence and communication skills. Nevertheless, improvements in organizational planning-particularly concerning session time allocation and group management-could optimize its impact. Strengthening BST implementation could further bridge the gap between theoretical learning and clinical practice.

### Abstract 033: Assessing Training on Medication Errors Through an 'Error Room' Simulation

Hajji R<sup>1</sup>, Kahloul M<sup>1</sup>, Houichi I<sup>1</sup>, Belaid M<sup>1</sup>, Melayeh S<sup>1</sup>, Trad C<sup>1</sup>, Amri<sup>1</sup>, Dahmane S<sup>2</sup>, Chaouch A<sup>1</sup>, Naija W<sup>1</sup>

1. Department of Anesthesia and Intensive Care Sahloul Teaching Hospital, Sousse, Tunisia;
2. Higher School of Health Sciences and Technologies of Monastir, Tunisia

**Introduction:** Medication errors (MEs) are a major patient safety concern, occurring in 7.3-12% of operating rooms and 1.3-31.7% of intensive care units. They may arise at any stage, prescription, preparation, administration, or monitoring, often due to labeling mistakes, fatigue,

**Methods:** A descriptive cross-sectional study was conducted in the Department of Anesthesia and Intensive Care at Sahloul University Hospital (2024-2025). Thirty-nine 2nd- and 3rd-year anesthesia students from the Private Higher School of Health Sciences and Techniques participated. Data were collected using an anonymous checklist including 27 embedded errors and a 4-point Likert satisfaction questionnaire.

**Results:** Participants were mostly female (97.4%) with a mean age of 21.2 +/- 2.2 years. Students identified on average 10 errors (range = 3-17). The most frequently detected errors were documentation omissions (69.2%), incorrect administration of low-molecular-weight heparin (69.2%), and inadequate post-administration monitoring (53-59%). Communication and prescription errors were less frequently detected (5-7.7%). Most participants stated that the workshop met their expectations (69.2%) and would be useful for future practice (64.1%), with an overall satisfaction score of 8.6 +/- 1.0/10.

**Conclusion:** The "Error Room" simulation improved students' awareness and ability to identify medication errors. Although complex errors remained challenging, the activity was highly appreciated and represents a practical, engaging tool to enhance training quality and promote patient safety in anesthesia and intensive care.

### Abstract 034: Assessing Unmet Rehabilitation Needs and National Inpatient Rehabilitation Capacity in Tunisia: A Dual Study from 2023

Dhouibi J, Loubir I, Moncer R, Jemni S

Physical Medicine and Rehabilitation department, Sahloul University Hospital

**Introduction:** Inpatient rehabilitation represented a crucial

component of post-acute care, yet access remained limited in many Low- and Middle-Income Countries (LMICs). In Tunisia, the actual capacity of inpatient rehabilitation facilities and the degree to which population

**Methods:** This study combined two complementary components: a cross-sectional analysis of all 2023 admission requests to the inpatient rehabilitation department of Sahloul University Hospital, and a national assessment of rehabilitation capacity using official datasets from the Ministry of Health, the Eastern Mediterranean Regional Office, and the National Institute of Statistics.

**Results:** Three inpatient rehabilitation facilities served the entire country, with marked inequities: ratios ranged from 1.07/1000 in the Northeast to 0 in the Northwest and the South. Among 329 admission requests, 316 were eligible; 40.5% were not admitted due to bed shortages. Non-neurological diagnoses and residence outside Sousse were associated with approximately double the risk of non-admission. At one month, 63% of non-admitted patients experienced functional decline.

**Conclusion:** Tunisia showed a critically low inpatient rehabilitation capacity, resulting in substantial unmet needs and functional deterioration among patients who could not be admitted. Severe regional disparities underscored the urgent need for national health policies to expand rehabilitation bed availability and ensure equitable access to post-acute care. **Keywords:** Accessibility, Health Equity, Inpatient Rehabilitation, LMICs, Rehabilitation Services, Tunisia

### Abstract 035: Assessment of Knowledge, Attitudes, and Practices Among Patients Infected with Hepatitis B Virus in Tunisia: A Cross-Sectional Study

Trabelsi O, Mrabet S, Harbi R, Akkari I, Ben Jazia E

Department of Gastroenterology, Farhat Hached University Hospital, Faculty of Medicine of Sousse, University of Sousse, Tunisia

**Introduction:** Hepatitis B remains a major global public health concern, accounting for nearly 820,000 deaths annually. In Tunisia, despite a moderate prevalence estimated at 1.7%, the infection continues to represent a persistent challenge.

**Methods:** A descriptive cross-sectional study was conducted between May and August 2025 among 80 patients chronically infected with hepatitis B surface antigen (HBsAg) attending the hepatology outpatient clinic of Farhat Hached University Hospital in Sousse, Tunisia. Data were collected using a structured Arabic-language questionnaire covering knowledge (22 items), attitudes (6 items), and practices (16 items).

**Results:** The mean age of participants was 44 +/- 11 years, with a female predominance (58.8%). Knowledge: The mean knowledge score was 12.4/19 (+/-2.1), and only 33.8% of patients demonstrated adequate knowledge. Major misconceptions concerned the causal agent (53.8% correct responses), mother-to-child transmission (43.8%), and non-transmission through kitchen utensils (46.3%). Attitudes: While 35% of respondents reported feeling ashamed to disclose their infection, 80% displayed an overall positive attitude, and all participants (100%) recognized the importance of health education.

**Conclusion:** This study highlights substantial gaps in knowledge and certain preventive practices among Tunisian patients living with chronic hepatitis B, despite generally positive attitudes. The identification of vulnerable groups, particularly those with low education and living in rural settings, underscores the urgent need to implement culturally adapted national strategies for therapeutic education and awareness to improve prevention, adherence, and overall HBV control. Lower KAP scores were significantly associated with older age, rural residence, low

educational level, and unfavorable socioeconomic status ( $p < 0.05$ ).

### Abstract 036: Assessment of Occupational Medicine Residents' Knowledge of Professional Confidentiality

Kacem I<sup>1,2</sup>, Aloui A<sup>1,2</sup>, Gharsaloui S<sup>2</sup>, Gaddour A<sup>3,2</sup>, Bouhoul M<sup>1,2</sup>, Maoua M<sup>4,2</sup>, Ben Dhiab M<sup>2</sup>

1. Occupational Medicine Department, Farhat Hached University Hospital, Sousse, Tunisia;
2. University of Sousse, Faculty of Medicine of Sousse, 4000 Sousse, Tunisia;
3. Occupational Medicine Department, Ibn Jazzar University Hospital, Kairouan, Tunisia;
4. Occupational Medicine Department, Sahloul University Hospital, Sousse, Tunisia

**Introduction:** Medical confidentiality, a cornerstone of the trust-based physician patient relationship, faces unique constraints in occupational medicine. The dual role of the employer as both guarantor of workplace health and employer of the occupational physician creates tension between employees'

**Methods:** This descriptive, cross-sectional, multicenter study was conducted in November 2024 among residents training in occupational medicine at university hospital centers across Tunisia. A self-administered questionnaire was developed via Google Forms and distributed by email to participants by the principal investigator.

**Results:** A total of 25 responses were collected, representing a participation rate of 92.5%. The mean age of participants was 28.4  $\pm$  1.5 years, with a clear female predominance (84%). The majority (72%) reported having received no prior training in medical ethics. The overall rate of correct answers was only 24.5%. Specifically, knowledge of the foundational principles of medical confidentiality was particularly low, with merely 12% correct responses. Knowledge of the legal and professional consequences of breaching confidentiality was higher (64% correct). However, all responses concerning shared confidentiality ("secret partagé") and the scope of professional secrecy were incorrect. Correct responses regarding permissible exceptions to confidentiality and the mandatory reporting of occupational diseases were very low 24% and 16%, respectively.

**Conclusion:** These findings highlight an urgent need to reinforce training in professional confidentiality for future occupational physicians. It is imperative to develop tailored initial and continuing education programs that incorporate practical, case-based scenarios to equip residents with the ethical and legal competencies required to navigate complex confidentiality challenges in the workplace.

### Abstract 037: Assessment of the COVID-19 Pandemic's Impact on Safety Culture Among Healthcare Workers in the Intensive Care Units of IBN EL JAZZAR University Hospital, Kairouan (Tunisia).

Meddeb T, Hannachi H, Ben Hassine D, Merzougui L, Chebil D

Department of preventive and community medicine Ibn el Jazzar University Hospital of Kairouan Faculty of Medicine of Sousse , University of Sousse

**Introduction:** The safety culture among healthcare workers (HCWs) can be influenced by workload and elevated occupational stress especially during COVID-19 pandemic. Aim: to assess the impact of the COVID 19 pandemic on the level of safety culture among HCWs in the intensive care units (ICUs) at the CHU IBN ELJAZZAR of Kairouan-Tunisia.

**Methods:** A cross sectional study carried out in pre and post COVID19 pandemic. The baseline assessment was in April 2019 and the second one was in April 2023. The tested and validated French version of the Hospital Survey on Patient Safety Culture"(HSOPSC) questionnaire was used to collect data. A score was calculated for each dimension of safety culture. This score was the average of the proportions of positive responses per item. The chi square test was used to compare scores. A p-value <0.05 was considered statistically significant.

**Results:** The impact of the COVID-19 pandemic on the level of safety culture was significant only for the dimension 'non-punitive response to error', the score of which increased from 29.6% to 34.5% from 2019 to 2023 ( $p < 0.03$ ). The dimension 'teamwork in the department' had the highest scores (58%). All dimensions of safety culture had scores less than 75%.

**Conclusion:** The COVID-19 crisis provided a unique opportunity to reassess and strengthen the safety culture, drawing lessons to build a safer healthcare system that is more adaptable to future crises.

### Abstract 038: Association Between e-Health Literacy Level and the Severity of Contact Eczema

Kacem I, Aloui A, Nakhli R, Ghenim A, Bouhoula M, Chouchane A, Kalboussi H, Chatti S, El Maalel O

Occupational medicine department, Farhat Hached University hospital, Sousse Tunisia

**Introduction:** Contact eczema is a disabling skin condition whose recurrent nature significantly impairs patients' quality of life. While preventive strategies exist, their success hinges on patient adherence often compromised by inadequate understanding. Health literacy, particularly e-health literacy, plays a crucial role in enabling patients to comprehend, apply, and sustain disease management measures. To assess the association between e-health literacy level and eczema severity in patients with contact eczema.

**Methods:** This was an analytical cross-sectional study conducted in 2025 among patients who consulted the dermatology-allergy unit of the Occupational Medicine Department at Farhat Hached University Hospital in Sousse during the year 2024. The level of e-health literacy was measured using the eHEALS (e-Health Literacy Scale) questionnaire, and eczema severity was assessed using the POEM (Patient-Oriented Eczema Measure) score.

**Results:** A total of 62 patients with eczema were included. The mean age was 39  $\pm$  13.99 years, with a sex ratio of 0.87. The most frequent localization of contact eczema was the upper limb (46.8%), with a mean disease duration of 4.23 years. The mean eczema severity score was 6.97  $\pm$  5.5, with severe eczema observed in 16.1% of cases. The mean e-health literacy score was 35.5  $\pm$  2.62, with low scores reported in 46.8% of patients. No association was found between e-health literacy scores and eczema severity.

**Conclusion:** This study suggests that e-health literacy may influence the long-term management and progression of eczema, highlighting the need for targeted interventions to improve patient care.

### Abstract EP 039: Association Between Equipment Characteristics and Injuries in Young Tunisian Tennis Players

Ksibi N<sup>1</sup>, Layouni S<sup>2</sup>, Neguez M<sup>3</sup>, Ghali H<sup>4</sup>, Loubiri I<sup>2</sup>, Grichi G<sup>2</sup>, Gaaloul B<sup>2</sup>, Rjiba C<sup>3</sup>, Jemni S<sup>2</sup>

1. Faculty Of Medicine of Sousse;
2. Physical Medicine and Rehabilitation Department, University Hospital

Sahloul, Sousse, Tunisia;  
 3. Department of Family Medicine, Farhat HACHED Hospital, University of Sousse, Tunisia;  
 4. Department of Preventive and Community Medicine, University Hospital Sahloul, Sousse,, Tunisia

**Introduction:** Adequate equipment is a critical factor in reducing injury risk in youth tennis. Inappropriate rackets, footwear, or clothing may contribute to musculoskeletal overload and increase the likelihood of both acute and overuse injuries.

**Methods:** A cross-sectional study was carried out from October 2023 to August 2024 including 256 competitive players under 18 years of age from clubs in Sousse, Monastir, and Mahdia. Data were collected using a standardized questionnaire assessing demographic characteristics, injury history, and details of equipment. Equipment adequacy was evaluated based on racket size relative to age/height, footwear quality (tennis-specific vs.

**Results:** A total of 137 players (53.5%) reported at least one injury. Among them, 68% of those using an inadequate racket (too heavy or inappropriate length) sustained injuries compared to 49% with appropriate rackets ( $p=0.02$ ). Players wearing non-specialized or worn footwear showed a significantly higher injury prevalence (71%) than those using tennis-specific footwear (48%,  $p<0.01$ ). Inadequate clothing (non-breathable or ill-fitted) was less common but also associated with a higher rate of overheating-related complaints and minor injuries.

**Conclusion:** Injury risk in young Tunisian tennis players is strongly influenced by equipment characteristics, particularly footwear and racket adequacy. These findings emphasize the importance of proper equipment selection and regular monitoring by coaches and parents as a modifiable preventive strategy.

#### Abstract 040: Association between high blood pressure and mental health in Tunisian adolescents

Ben Fredj S<sup>1</sup>, Ghammam R<sup>1</sup>, Zammit N<sup>1</sup>, Skhiri A<sup>1</sup>, Ben Saad O<sup>2</sup>, Chouikha F<sup>2</sup>, Maatoug J<sup>3</sup>, Harrabi I<sup>1</sup>

1. Department of Preventive Medicine "LR19SP03", University Hospital Farhat Hached of Sousse,
2. Faculty of Medicine of Sousse, University of Sousse, Sousse City, 4000, Tunisia;
3. Community and Preventive Medicine Department, Primary health Care Corporation, Al Mina Street, P.O. Box: 26555, Doha Qatar

**Introduction:** High blood pressure (HBP) is a growing problem among adolescents. Although the influence of hypertension on organ dysfunction is widely studied, the relationship between pediatric hypertension and mental health disorders is understudied.

**Methods:** A cross-sectional analytical study was conducted during the 2018-2019 academic year among a representative sample of 1,342 adolescents aged 15 to 18 years enrolled in public high schools in Sousse, eastern Tunisia. Data were obtained from blood pressure measurements and a self-administered questionnaire (sociodemographic characteristics and mental health disorders). Data were entered and analyzed using SPSS version 20 software.

**Results:** In our study, 63.2% of participants were girls. The mean age was 17.5 +/- 1.44 years. The prevalence of hypertension was 22.1%. Boys were more likely to be hypertensive than girls with 27.9% versus 18.6%,  $p < 0.001$ . Older students (> 18 years) were more vulnerable to hypertension with 22.5% compared to other groups (20.7% for 14-16 years and 22.2% for 16-18 years), but without significant difference,  $p = 0.851$ .

**Conclusion:** There was a significant association between hypertension and several mental health disorders in

adolescents. Hence, the need to implement screening and management strategies for mental health disorders to improve the health status of adolescents with hypertension. However, the mechanisms explaining the comorbidity between psychiatric disorders and hypertension are poorly understood and warrant further research.

#### Abstract 041: Association between Physical Activity and Mental Health in Nursing Students

Ghali H<sup>1</sup>, Sakly Y<sup>2</sup>, Moussi S<sup>3</sup>, Kammoun M<sup>3</sup>

1. Department of Preventive Medicine;
2. Higher Institute of Nursing Sciences of Sousse;

**Introduction:** Nursing students globally experience significant stress, anxiety, and fatigue, which can impact their well-being and academic performance. Physical activity is a recognised protective factor for mental health, but its specific relationship with the psychological well-being of nursing students

**Methods:** A cross-sectional correlational study was conducted among undergraduate nursing students (N=230) at a public institution. Participants completed validated scales for perceived stress, anxiety, depression, sleep quality, and fatigue. Physical activity was defined as at least 150 minutes of moderate-intensity activity per week, consistent with World Health Organisation guidelines.

**Results:** Less than half (42.17%) of the students met the physical activity criteria. Those who were physically active demonstrated markedly lower levels of anxiety, depression, and perceived stress. They also reported better sleep quality and lower fatigue levels compared to their inactive peers. Academic year and housing situation were possible predictors of physical activity engagement. A strong and consistent association was found between physical activity and better psychological well-being in this student cohort.

**Conclusion:** Physical activity is strongly linked to superior mental health outcomes among Tunisian nursing students. Promoting an active lifestyle should be a priority in supporting this population. Nurse educators and clinical preceptors can play a role in encouraging and normalising physical activity as a self-care strategy for students, particularly during stressful academic and clinical periods.

#### Abstract 042: Association of Absent Cremasteric Reflex with Testicular Torsion in Pediatric Acute Scrotum: A Prospective Cohort Study

Issaoui A, Zouari M, Belhajmansour M, Hbaieb M, Ben Dhaou M, Mhiri R

Department of pediatric surgery, Hedi Chaker university hospital of sfax

**Introduction:** Differentiating between testicular torsion (TT) and torsion of the testicular appendix (TTA) presents a diagnostic challenge due to their overlapping clinical features, which can lead to significant diagnostic uncertainty in cases of acute scrotum.

**Methods:** After receiving institutional review board approval, we conducted a prospective study in the department of pediatric surgery, Hedi Chaker Hospital, Sfax, Tunisia from January 1, 2022, to July 31, 2024. Children under 14 years of age presenting with acute scrotum and a final diagnosis of either TT or TTA were included.

**Results:** A total of 68 patients were enrolled, including 28 cases (41.2%) of TT and 40 cases (58.8%) of TTA. The median age of patients was 11 years, and the median duration of pain was 20 hours. Physical examination revealed testicular swelling in 54

patients (79.4%), high-riding testis in 19 (27.9%), and diffuse tenderness in 55 patients (80.9%). An absent cremasteric reflex was noted in 20 cases (29.4%). Univariate analysis identified the absence of cremasteric reflex in 57.1% of patients with TT and in 10% of those with a final diagnosis of TTA. Multivariate analysis identified absent cremasteric reflex ( $p=0.039$ , Odds ratio=9.936 [1.123-87.941]) as an independent predictive factor for TT in children with acute scrotum.

**Conclusion:** Our findings indicate that an absent cremasteric reflex is a critical independent factor in differentiating TT from TTA among pediatric patients presenting with acute scrotum. This simple bedside sign, when systematically assessed, may enhance the accuracy of early clinical diagnosis, reduce reliance on unnecessary imaging, and facilitate timely surgical intervention, thereby improving testicular salvage rates and overall outcomes.

#### Abstract 043: Atmospheric Pollution Exposure and Respiratory Morbidity: Evidence from Sousse, Tunisia

Omrane A<sup>1</sup>, Ben Limem I<sup>1</sup>, Zid M<sup>2</sup>, Ben Bdira B<sup>1</sup>, Bouafia S<sup>1</sup>, Knaz A<sup>1</sup>, Aissa S<sup>1</sup>, Gargouri I<sup>2</sup>, Harrabi I<sup>2</sup>, Abdelghani A<sup>1</sup>

1. Pneumology department university hospital Farhat Hached- Sousse-Tunisia;

2. Epidemiology department university hospital Farhat Hached- Sousse-Tunisia

**Introduction:** Air pollution is a major determinant of respiratory morbidity worldwide, particularly in regions undergoing rapid urban and industrial growth. Fine and ultrafine particulate matter (PM<sub>0.1</sub>, PM<sub>2.5</sub>, PM<sub>10</sub>) and volatile organic compounds (VOCs) contribute to oxidative stress, airway inflammation, immune dysregulation, and both acute and chronic respiratory diseases.

**Methods:** This 12-month prospective cohort study will include adults ( $\geq 18$  years) with confirmed respiratory diseases followed in specialized centers in Sousse. Air quality will be monitored using a fine-particle IoT sensor prototype developed by MIGSens, measuring PM<sub>0.1</sub>, PM<sub>2.5</sub>, PM<sub>10</sub>, and VOCs, along with temperature, humidity, and atmospheric pressure. Respiratory outcomes-based on GINA 2025, GOLD 2025, and clinical criteria for pulmonary fibrosis and allergic rhinitis-include documented exacerbations requiring medical consultation, emergency visits, or hospitalization.

**Expected Results:** We hypothesize that daily increases in PM<sub>2.5</sub> concentrations will be significantly associated with higher rates of respiratory exacerbations, and that chronic exposure to fine and ultrafine particulate matter will contribute to long-term respiratory disorders.

**Conclusion:** This study will provide the first locally generated evidence linking atmospheric pollution to respiratory morbidity in Sousse, Tunisia. Findings are expected to support public health planning, environmental monitoring strategies, and preventive interventions at both regional and national levels.

#### Abstract 044: Attitudes of medical interns and residents towards patients with disabilities

Cherif M, El Feni N, Riahi M, Ghanmi M, Nouira A, El Mtaoua S

Department of Physical Medicine and Rehabilitation, Ibn Jassar Hospital, Kairouan

**Introduction:** Access to healthcare for people with disabilities remains a major public health challenge. Despite progress, many barriers persist, particularly those linked to healthcare professionals' attitudes.

**Methods:** A cross-sectional study was conducted using an online questionnaire distributed to medical interns and residents. Attitudes toward patients with disabilities were assessed using the Arabic version of the Scale of Attitudes toward Disabled Persons (SADP).

**Results:** Among the 35 participants, 37.1% were male and 62.9% female, with a mean age of  $27 \pm 3$  years. Residents represented 74.3% of the sample, including 31.4% specializing in Physical Medicine and Rehabilitation, while interns accounted for 25.7%. Most participants (97.1%) reported a middle socioeconomic status. Although 94.3% had prior contact with patients with disabilities, 82.9% felt their training was insufficient, and all rated their knowledge as only moderate. Intellectual disabilities were perceived as the most challenging to manage (74.3%), due to communication difficulties, limited autonomy, and unpredictable behaviors, whereas motor or visual disabilities were considered easier to handle. Furthermore, 37.1% of participants expressed uncertainty about their comfort in interacting with people with disabilities, and 74.3% believed that individuals with disabilities do not receive adequate care within the healthcare system. Overall, 51.4% of participants demonstrated positive attitudes toward patients with disabilities, with a mean SADP score of 16.

**Conclusion:** While interns and residents generally hold favorable attitudes toward patients with disabilities, many feel unprepared to provide optimal care. Enhancing medical training on disability management is crucial to improve confidence and quality of care.

#### Abstract 045: Barriers to influenza vaccine uptake among healthcare workers. Tunisia, 2024

Doghri S<sup>1</sup>, Letaief H<sup>2</sup>, Dhouadi S<sup>1</sup>, Hechaichi A<sup>1</sup>, Ben Youssef F<sup>1</sup>, Bouaff N<sup>2</sup>, Ben Alaya<sup>1</sup>

1. National Institute of Health;

2. The National Observatory of New and Emerging Diseases

**Introduction:** The National Observatory of New and Emerging Diseases Barriers to influenza vaccine uptake among healthcare workers. Tunisia, 2024. S. Doghri, H. Letaief, S. Dhouadi, A. Hechaichi, F. Ben Youssef N.

**Methods:** In Between January and February 2024, we conducted a national cross-sectional knowledge, attitudes, perceptions, and practices survey among a representative sample of frontline HCWs in Tunisia from 46 primary healthcare centers across nine governorates. Face-to-face interviews were conducted by trained HCWs using a standardized and internally reviewed questionnaire based on the US-CDC protocol. Data analysis was performed using SPSS.

**Results:** A total of 906 HCWs participated (sex ratio = 0.24; median age=41.0 years [36.0-48.0]). IV uptake during the 2023/2024 season was 13.1%. Among unvaccinated participants (n=151), the most frequently cited reason for refusal was a preference for natural immunity (59.7%), followed by a belief of not being susceptible to influenza (22.2%). Disbelief in vaccines in general was reported by 12.0%, and doubts about vaccine safety by 10.1%. Doubts about vaccine efficacy were mentioned by 5.5% of HCWs. A minority (0.5%) mentioned lack of time or vaccine unavailability as reasons for non-vaccination.

**Conclusion:** Vaccine refusal among Tunisian HCWs is largely driven by misconceptions about personal risk, overreliance on natural immunity, and lingering safety concerns. Targeted educational campaigns emphasizing individual vulnerability and vaccine safety are needed to counter these barriers and improve future IV uptake.

### Abstract 046: Biosafety and biosecurity measures in the microbiology laboratory: Assessment of practices and recommendations

Maatouk Y, Azouzi F, Zaibi O, Miladi H, Kahloul A, Marzouk M, Hannachi N

Microbiology Laboratory, Farhat Hached University Hospital, Faculty of Medicine of Sousse

**Introduction:** Biosafety and biosecurity constitute fundamental pillars for the safe handling of pathogenic agents in microbiology laboratories; nevertheless, ensuring their consistent implementation continues to pose significant challenges, particularly in resource-limited settings. This study aimed to evaluate the level of biosafety and biosecurity in the microbiology laboratory of CHU Farhat Hached, Sousse, by assessing both staff knowledge and practices, as well as the laboratory's infrastructure and organization.

**Methods:** A cross-sectional descriptive study was conducted over three months (June-August 2025). Data were collected using a structured questionnaire administered to laboratory personnel (n=24) and a checklist assessing laboratory infrastructure, organization, and operational procedures. Questionnaire responses were analyzed for practices, knowledge, incident management, and training, while the checklist evaluated access control, sample handling, equipment, maintenance, and staff training.

**Results:** The questionnaire showed good general biosafety practices (75.3%) and high adherence to biosecurity measures (81%), but highlighted gaps in incident management (58.7%) and continuous training (61.9%). Notably, 38.1% of participants reported previous exposure incidents. The checklist revealed strengths in functional organization (100%) and workspace arrangement, but weaknesses in access control (50%), sample transport (33.3%), and protection against digestive and cutaneous exposure (33.3% and 40%, respectively).

**Conclusion:** Our laboratory demonstrates a solid functional organization and a generally positive safety culture. However, critical gaps in infrastructure, incident management, and continuous training persist, exposing staff to occupational risks. These findings emphasize the need for a targeted action plan to strengthen biosafety and biosecurity through improved access control, sample handling, equipment maintenance, and ongoing staff training.

### Abstract 047: Bladder and bowel disorders in children with cerebral palsy: a cross-sectional study

Chikhaoui C<sup>1</sup>, Layouni S<sup>2</sup>, Ghali H<sup>3</sup>, Loubiri I<sup>2</sup>, Grichi G<sup>2</sup>, Gaaloul B<sup>2</sup>, Haj Mbarek T<sup>1</sup>, Jemni S<sup>2</sup>

1. Faculty of Medicine of Sousse;

2. Physical Medicine and Rehabilitation Department, University Hospital Sahloul, Sousse 4054, Tunisia;

3. Department of Preventive Medicine, University Hospital Center, sahloul

**Introduction:** Cerebral palsy (CP) is the leading cause of motor disability in children. In this population, bladder-sphincter and anorectal disorders are common but remain underdiagnosed and inadequately managed. Their prevalence and their relationship with motor severity, functional autonomy, and

**Methods:** A cross-sectional study was conducted from April to June 2025 in the Physical Medicine and Rehabilitation Department of Sahloul University Hospital. Ninety-three caregivers were interviewed by telephone using a structured questionnaire collecting sociodemographic data, clinical characteristics of CP, motor severity (GMFCS), functional

autonomy (WeeFIM), urinary and anorectal disorders, as well as caregivers' psychological status and quality of life (HADS, SF-12).

**Results:** The children with CP included in the study were predominantly aged between 5 and 10 years, with a predominance of perinatal, spastic, and quadriparetic forms. More than half of the children presented bladder-sphincter disorders (54.8%), and 43% had anorectal disorders, mainly enuresis/urinary incontinence and constipation, respectively. These disorders were significantly associated with severe motor impairment, low functional autonomy, inability to walk, and impaired caregivers' quality of life.

**Conclusion:** This study demonstrates a high prevalence of bladder-sphincter and anorectal disorders in children with cerebral palsy, closely related to motor severity and reduced functional autonomy. Despite their frequency, these disorders remain insufficiently explored and managed. The findings highlight the importance of systematic screening and a comprehensive multidisciplinary approach addressing motor, functional, and psychosocial dimensions of both the child and their caregivers. Keywords : Cerebral palsy, child; prevalence, bladder diseases, bowel diseases

### Abstract EP 048: Blood loss in spinal fusion neurosurgery: A descriptive study

Guellim S<sup>1</sup>, Soussi M<sup>1</sup>, Baazoug M<sup>1</sup>, Hajji R<sup>1</sup>, Ksira I<sup>2</sup>, Ben Hamada H<sup>1</sup>, Najja W<sup>1</sup>

1. University of Sousse, Faculty of Medicine of Sousse, Sahloul hospital, Department of Anesthesia and Reanimation, 4054, Sousse, Tunisia;

2. University of Sousse, Faculty of Medicine of Sousse, Sahloul hospital, Neurosurgery, 4054, Sousse, Tunisia

**Introduction:** Deglobulization, defined as a rapid decline in red blood cell count or hemoglobin, is a major concern following high-risk hemorrhagic surgeries. In lumbar fusion surgeries, the literature reports a variable blood transfusion rate ranging from 10% to 30%.

**Methods:** This cross-sectional observational study was conducted in the neurosurgery operating rooms of our Teaching Hospital. Prospectively includes data from all adult patients who underwent posterior lumbar interbody fusion (PLIF) between July 2021 and June 2024. Data sources for this study included preoperative anesthesia evaluations, patient medical files, and anesthesia records.

**Results:** A total of 132 patients were included in the study, comprising 22% men (n=29) and 78% women (n=103). The mean weight of the patient was 79.1 +/- 9.7 kg. Among the included patients, 23.5% (n=31) were diagnosed with diabetes and 37.1% (n=49) had hypertension. Hematocrit levels were 41.2 +/- 3.9% and hemoglobin levels were 14.1 +/- 1.4 g/dl for men, while for women, hematocrit levels were 38.6 +/- 3.2% and hemoglobin levels were 13.03 +/- 1.1 g/dl. Tranexamic acid was administered in 40.2% (n=53) of the surgeries. Incidental surgical dural tears occurred in 23.5% (n=31) of the cases. Furthermore, 24.2% (n=32) of the included patients required a transfusion of PRBC. The EBL was 1081.7 +/- 617,8 ml of RBC for the not transfused patients and 1119.5 +/- 639.4 ml of RBC for the transfused patients

**Conclusion:** The mean EBL was approximately 1,100 ml, with approximately one quarter of the patients requiring a transfusion during PLIF surgery. More studies are recommended to identify specific risk factors for blood loss in this population of patients.

### Abstract EP 049: French-Tunisian Translation and Psychometric Validation of the Evidence-Based Practice Competence Questionnaire Among Tunisian Health Sciences Students

Hamdouni A<sup>1</sup>, Chartrand J<sup>2</sup>, Ghardallou M<sup>1</sup>, Chelbi S<sup>1,3</sup>

1. Faculty of Medicine of Sousse, University of Sousse, Tunisia
2. School of Nursing, Faculty of Health Sciences, University of Ottawa;
3. Higher School of Health Sciences and Techniques of Sousse, University of Sousse, Sousse, Tunisia

**Introduction:** Developing evidence-based practice (EBP) competency among nursing students requires valid and culturally adapted instruments capable of assessing attitudes, knowledge, and skills. Prior to this study, such tools were not available in Tunisia.

**Methods:** A cross-sectional methodological validation study was conducted using a convenience sample of undergraduate health sciences students from three public nursing institutions in Tunisia. Content validity was assessed through expert review. The translated questionnaire was administered online to evaluate its psychometric properties. Construct validity was examined using exploratory and confirmatory factor analyses, while reliability was assessed using Cronbach's alpha, corrected item-total correlations, and

**Results:** A total of 330 students completed the questionnaire, yielding a response rate of 68.5%. Content validity was excellent (I-CVI: 0.90-1.00; S-CVI/Ave = 0.988; overall = 0.95). Exploratory factor analysis supported a three-factor structure-Attitudes, Skills, and Knowledge-explaining 54.04% of the total variance. Factor loadings ranged from 0.56 to 0.84, with communalities between 0.41 and 0.76. Confirmatory factor analysis indicated an acceptable model fit ( $\chi^2/df = 2.12$ , CFI = 0.932, TLI = 0.925, RMSEA = 0.058, SRMR = 0.064).

**Conclusion:** The EBP-COQ-Fr-Tn demonstrated strong reliability and validity while maintaining the original three-factor structure of the questionnaire. It represents a culturally adapted and psychometrically robust instrument for assessing self-perceived EBP competencies among undergraduate health sciences students in Tunisia and may support its application in educational practice and curriculum development.

### Abstract 050: Building Research Capacity Among Young Physicians in Tunisia: A Combined Assessment of Barriers, Productivity, and Training Needs

Khechini O, Chakroun H, Bannour I, Fhima F, Twil A, Ghzel R, Souii S

Faculty of medicine of sousse, University of Sousse

**Introduction:** Engagement in research is a fundamental component of professional development for early-career physicians. However, multiple factors influence their ability to participate effectively, including the availability of training, mentorship, and institutional support.

**Methods:** A combined analysis was conducted using data from three cross-sectional surveys administered to a total of 40 early-career physicians from various medical institutions in Tunisia. Collected variables included demographics, research experience, scientific output, perceived obstacles, and preferred areas for further training. Descriptive statistics (means, frequencies, percentages) were used to summarize the aggregated data.

**Results:** Respondents had a mean age of approximately 34 years, with women representing nearly 60% of the sample. Research engagement was relatively high: around 80-85%

had participated in at least one research project, 70-75% had presented at scientific meetings, and 55-65% had published scholarly work. Commonly reported outputs included dissertations, conference abstracts, and peer-reviewed manuscripts. Across the three surveys, several persistent barriers emerged, most notably limited time due to clinical workload, inadequate funding opportunities, and insufficient methodological preparation.

**Conclusion:** Across all three assessments, young physicians in Tunisia demonstrated active involvement in research but identified significant obstacles that hinder their productivity. The high demand for structured mentorship and targeted training highlights a clear opportunity for institutions to strengthen research capacity. Implementing comprehensive programs focused on methodological skills, statistical competence, and academic writing could markedly enhance engagement and contribute to the development of a more dynamic and productive research environment within the

### Abstract 051: Can We Predict 30-day Mortality Following Neonatal Repair of Digestive System Atresias?

Jarboui O, Zouari M, Issaoui A, Bel Haj Mansour M, Ben Dhaou M, Mhiri R

Department of Pediatric Surgery, Hedi Chaker University Hospital, Sfax, Tunisia

**Introduction:** Neonatal digestive system atresias (DSAs) represent urgent surgical conditions frequently affecting infants with multiple risk factors. Despite advances in perioperative management, early mortality remains substantial, particularly in resource-limited settings.

**Methods:** A retrospective review was conducted of all neonates who underwent surgical repair of DSAs at Hedi Chaker University Hospital, Sfax, Tunisia, between April 2015 and March 2025.

**Results:** A total of 181 neonates were included (48.1% males). The mean gestational age was 36.5  $\pm$  2.7 weeks, mean birth weight 2560  $\pm$  718 g, and mean 5-minute Apgar score 9.1  $\pm$  0.9. The most frequent conditions were esophageal atresia (n=105) and duodenal atresia (n=42). Overall, 48 infants (26.5%) died within 30 days. Direct causes of mortality included nosocomial infections (n=13), respiratory insufficiency (n=12), septic shock (n=11), cardiac failure (n=10), renal failure (n=1), and intraventricular hemorrhage (n=1). These factors included cardiac comorbidities (Odds ratio (OR) = 10.99; p=0.001), gestational age <37 weeks (OR = 10.01; p<0.001), birth weight <2200 g (OR = 12.03; p<0.001), postoperative intubation >48 h (OR = 13.87; p<0.001), and surgery duration >140 min (OR = 9.28; p<0.001).

**Conclusion:** Thirty-day mortality following neonatal repair of DSAs remains high in our setting. Readily identifiable factors including low gestational age, low birth weight, cardiac comorbidities, prolonged intubation, and lengthy surgery, were strongly associated with poor outcomes. Early recognition of these high-risk features should prompt intensified perioperative monitoring, strict infection control measures, and tailored supportive care.

### Abstract 052: Can we predict the occurrence of urethral fistula after distal hypospadias repair in children?

Tounsi MK<sup>1,2</sup>, Zouari M<sup>1,2</sup>, Jarboui O<sup>1,2</sup>, Belhajmansour M<sup>1,2</sup>, Ben Dhaou M<sup>1,2</sup>, Mhiri R<sup>1,2</sup>.

1. Faculty of medicine of Sfax, University of Sfax, Sfax, Tunisia
2. Department of pediatric surgery, Hedi Chaker University Hospital, Sfax, Tunisia

**Introduction:** Prolonged mechanical ventilation is a known risk factor for nosocomial infections (NIs) in neonates. Yet, its contribution to infection risk after digestive system atresia (DSA) repair remains poorly quantified.

**Methods:** A retrospective study was conducted from January 2017 to December 2022 in the Department of Pediatric Surgery, Hedi Chaker Hospital, Sfax, Tunisia. All patients under 14 years undergoing distal hypospadias repair were included.

**Results:** During the study period, 415 boys underwent primary distal hypospadias repair. The median age at surgical repair was 3.3 years. The level of hypospadias was subcoronal in 103 patients, coronal in 232, and glandular in 80. Sixty-three children had penile curvature and 16 had penile torsion. Surgical techniques included advancement of the meatus with glanuloplasty (MAGPI procedure) in 35 (8.4%) patients, skin flap urethroplasty (Mathieu procedure) in 58 (14%) patients, and tubular incised plate (TIP) using the Thiersch-Duplay technique. Multivariable analysis identified the presence of a penile curvature ( $p=0.005$ , Odds ratio=2.667 [1.350-5.267]), the Thiersch-Duplay technique for urethroplasty ( $p=0.019$ , Odds ratio=2.725 [1.180-6.291]), and the volume surgeon<10 hypospadias/year ( $p<0.001$ , Odds ratio=3.502 [2.022-6.066]) as independent predictive factors of urethral fistula after primary repair of distal hypospadias in children.

**Conclusion:** Our study suggests that preoperative factors may predict urethral fistula following repair of distal hypospadias in the pediatric population. These factors would be useful in guiding a closer follow-up of high-risk children, explaining the disease prognosis to patients and their families, and planning simulation training for low-volume surgeons.

### Abstract 053: Cancer and Khat consumption: Histopathological Analyzes, Physicochemical Studies and Bioinformatics Approaches

Mohamed Abdoul-atif F

Center of studies and research of Djibouti (CERD)

**Introduction:** Khat (*Catha edulis* Forsk) is a plant traditionally consumed in the Arabian Peninsula and East Africa for its stimulating properties, linked to cathinone, an alkaloid with psychoactive effects similar to amphetamines. If its euphoric and stimulating effects are well documented, the oral impacts remain less explored. This study aims to evaluate the effects of khat on health via a multidisciplinary approach combining physicochemical analyses, histopathological examinations and bioinformatics modeling.

**Methods:** The study was conducted in three main parts: 1. Physicochemical analyses: Tooth samples from consumers and non-consumers of khat were analyzed to evaluate enamel erosion and alterations in their chemical composition. 2. Histopathological examinations: Gingival biopsies were performed to identify signs of inflammation and tissue changes. 3. Bioinformatics approaches: Molecular modeling was carried out to study the interactions between cathinone and proteins involved in the protection of gingival tissues.

**Results:** Physicochemical analyzes revealed a marked erosion of dental enamel in khat consumers, accompanied by a significant alteration in the chemical composition of the teeth. Histopathological examinations showed severe inflammation of the gums and oral mucosa. Furthermore, bioinformatics simulations highlighted an interaction between cathinone and critical protein receptors, potentially contributing to the vulnerability of gingival tissues to infections.

**Conclusion:** This study highlights the deleterious impacts of khat on health, characterized by physicochemical modifications,

gingival inflammation and harmful biochemical interactions. These Results call for increased awareness of the risks associated with khat consumption, as well as the implementation of appropriate prevention and regulation strategies. Keywords: Khat, cancer, physicochemical analyses, gingival histopathology, bioinformatics modeling, cathinone.

### Abstract 054: Characteristics of Acute Abdominal Pain in Renal Insufficiency Patients Admitted to the Emergency Department

Dhikra Hosni, Mariem Tlemceni, Ines Kchaou, Safia Othmani, Hana Hedhli, Sarra Jouini

Emergency department, Charles Nicolle Hospital, Tunis, Tunisia

**Introduction:** In patients with renal insufficiency, abdominal pain may present with atypical and varied manifestations related to uremia, metabolic complications, or treatments. This atypical presentation complicates diagnosis, making it necessary to assess the specific characteristics of this population to prevent severe complications. To determine the clinical and evolutionary characteristics of abdominal pain in patients with renal insufficiency admitted to the emergency department.

**Methods:** We conducted a retrospective descriptive comparative study over a 19-month period in the emergency department. We included patients admitted for non-traumatic abdominal pain with an established etiological diagnosis. The population was divided into two groups based on the presence or absence of renal insufficiency: an IRC+ group versus an IRC? group. We included both patients known to have chronic kidney disease and those with newly discovered elevated serum creatinine levels.

**Results:** We collected data from 245 patients divided into two groups: IRC+ (n=55) and IRC? (n=190). Median age = 60 years; sex ratio = 1.11. Significant associations were observed with diabetes ( $p=0.022$ ); stroke ( $p=0.021$ ); use of furosemide ( $p=0.01$ ); dysuria with burning sensation ( $p=0.034$ ); general deterioration of condition ( $p=0.009$ ); right iliac fossa pain ( $p=0.012$ ); left hypocondrial pain ( $p=0.015$ ); periumbilical pain ( $p=0.01$ ); and abdominal tenderness ( $p=0.018$ ).

**Conclusion:** In patients with renal insufficiency, abdominal pain is often atypical and multifactorial, requiring careful evaluation to rapidly identify severe causes and guide appropriate management.

### Abstract 055: Characteristics of methicillin-resistant Staphylococcus aureus strains in the Sousse region

Mallek N, Maatouk Y, Azouzi F, Rebhi M, Zaibi O, Kahloul A, Miledi H, Marzouk M, Hannachi N

Faculty of Medicine of Sousse, University Hospital Farhat Hached of Sousse

**Introduction:** Staphylococcus aureus is one of the most frequently implicated bacteria in human disease. Its resistance rates to antibiotics, particularly methicillin, are constantly increasing. This study aimed to determine the epidemiological and bacteriological characteristics of methicillin-resistant Staphylococcus aureus (MRSA) strains.

**Methods:** It was a four-year retrospective study (2021-2024) conducted on non-redundant MRSA strains isolated in the Microbiology laboratory of Farhat Hached University Hospital, from samples collected from outpatients and inpatients. Bacterial identification was performed by conventional **Methods.** Antibiotic susceptibility was determined according to CA-SFM/EUCAST standards.

**Results:** During the study period, a total of 244 MRSA strains were collected, representing 24.8% of all *S. aureus* strains. These strains were isolated in 82.7% of cases in the adult population, with a male-to-female ratio of 1.3. The departments with the highest rates of infection were dermatology (19.8%) and intensive care units (15.6%). MRSA was primarily isolated from superficial suppurations (34%), followed by blood cultures (21.7%). The MRSA strains were resistant to ciprofloxacin in 39% of cases and to gentamicin in 13.2%. No resistance to vancomycin was detected. Furthermore, resistance rates to clindamycin, rifampicin, and trimethoprim-sulfamethoxazole were 9%, 7.5%, and 10%, respectively. No resistance to linezolid, tigecycline, or pristinamycin was reported.

**Conclusion:** This study highlights the emergence of MRSA in the Sousse region, with varying antibiotic resistance profiles. While resistance to some antibiotics such as ciprofloxacin and gentamicin is rising, key molecules like vancomycin, linezolid, and tigecycline remain effective. Ongoing surveillance is essential to control the spread of MRSA and adapt treatment strategies.

### Abstract 056: Characteristics, Severity and Recurrence of Injuries among Competitive Tunisian Tennis Players Under 18

Ksibi N<sup>1</sup>, Layouni S<sup>2</sup>, Naguez M<sup>3</sup>, Ghali H<sup>4</sup>, Loubiri I<sup>2</sup>, Tayaa S<sup>2</sup>, Grichi G<sup>2</sup>, Gaaloul B<sup>2</sup>, Jemni S<sup>2</sup>

1. Faculty of medicine of Sousse;
2. Physical Medicine and Rehabilitation Department, University Hospital Sahloul, Sousse 4054, Tunisia;
3. Department of Family Medicine, Farhat HACHED Hospital, University of Sousse, Sousse 4031, Tunisia;
4. Department of Preventive and Community Medicine, University Hospital Sahloul, Sousse 4054, Tunisia

**Introduction:** Tennis exposes athletes to both acute and overuse injuries, which may compromise performance and long-term athletic development. While injury epidemiology in adult players has been extensively studied, limited data are available regarding young competitive players in Tunisia.

**Methods:** A descriptive cross-sectional study was conducted between October 2023 and August 2024, involving 256 competitive tennis players under 18 years of age from clubs in Sousse, Monastir, and Mahdia. Injuries were assessed using a standardized questionnaire that included demographic and sport-related data, medical history, and the Oslo Sports Trauma Research Center Overuse Injury Questionnaire (OSTRC-02).

**Results:** Among the 256 participants, 137 players (53.5%) reported at least one injury, with a total of 366 injuries documented. The majority involved the lower limbs (66%), primarily the hip/groin, knee, and ankle, followed by the upper limbs (22%) and trunk (12%). Muscle strains (34%) and tendinopathies (27%) were the most common tissue types. Acute injuries represented 59% of cases, while overuse injuries accounted for 41%. Severe injuries leading to more than 28 days of time loss were reported in 12% of cases. Notably, more than one-third of players experienced recurrent or subsequent injuries, reflecting an elevated burden of reinjury in this population.

**Conclusion:** The injury patterns observed among young Tunisian tennis players are consistent with international data, but recurrence rates appear higher. These findings emphasize the need for structured prevention, early injury management, and tailored rehabilitation strategies at the club level to safeguard long-term player health and performance.

### Abstract EP 057: Characterizing Urinary Tract Infections in Older Adults: A Five-Year Retrospective Analysis in Tunisia"

Chakroun H<sup>1</sup>, Bouhoula S<sup>2</sup>, Boudriga H<sup>1</sup>, Khechini O<sup>3</sup>, Rouis S<sup>1</sup>

1. Department of Infectious Diseases, Ibn Jazzar University Hospital, Kairouan, Tunisia
2. Department of Medicine, Ouslatia Hospital, Tunisia
3. Department of Anesthesiology and Intensive Care, Aghlabites Unit, Ibn Jazzar University Hospital, Kairouan, Tunisia

**Introduction:** Urinary tract infections (UTIs) are among the most frequent infections in elderly patients and constitute a common reason for hospital admission. Clinical presentation is often atypical, especially in dependent patients, complicating early diagnosis and management.

**Methods:** We conducted a retrospective descriptive study including patients aged over 65 years, hospitalized for UTIs in the Infectious Diseases Department of CHU Ibn Jazzar, Kairouan, between January 2020 and December 2023. Data were collected on demographics, comorbidities, clinical signs, laboratory Results, microbiology, and treatment. Statistical analysis was performed using SPSS 20.

**Results:** Seventy-three patients were included, with a mean age of 75.9 +/- 6.6 years and female predominance (n=43). Common comorbidities were diabetes (65.8%), hypertension (38.4%), and prostatic adenoma (15.1%). Clinical signs included lumbar pain (97.3%) and fever (87.7%). *Escherichia coli* was the predominant pathogen (34.3%), followed by *Klebsiella pneumoniae* (12.3%). Among resistant strains (n=17), *E. coli* accounted for 53% (including 5 ESBL-producing and 2 penicillinase-producing strains) and *K. pneumoniae* for 8 cases (including 2 ESBL-producing strains). The most frequently used combination therapy was C3G plus aminoglycoside (16.4%), followed by carbapenem plus aminoglycoside (2.7%). The mean duration of therapy was 7 days, extended up to 21 days in complicated cases.

**Conclusion:** UTIs in elderly patients present diagnostic challenges due to atypical symptoms and frequent comorbidities. Rational antibiotic therapy guided by microbiological data is crucial to optimize outcomes and limit the emergence of multidrug-resistant strains. Early recognition, appropriate antimicrobial selection, and individualized management are essential to reduce complications and improve quality of life in elderly patients with UTIs.

### Abstract 058: Chronic Pulmonary Aspergillosis: A Case Series of Six Patients Followed in Kairouan Pulmonology Department

Chakroun H<sup>1</sup>, Kharrat I<sup>1</sup>, Ameni K<sup>1</sup>, Sana Rouis S<sup>1</sup>, Ben Jezia R<sup>1</sup>

1. Department of Infectious Diseases, Ibn Jazzar University Hospital, Kairouan, Tunisia
2. Department of Pulmonology, Ibn Jazzar University Hospital, Kairouan, Tunisia

**Introduction:** Chronic pulmonary aspergillosis (CPA) is a progressive fungal infection of the lungs that occurs in patients with underlying pulmonary pathology. Its insidious onset and nonspecific clinical presentation often delay diagnosis.

**Methods:** We conducted a retrospective descriptive study of patients diagnosed with CPA in the Pulmonology Department of Kairouan from 2020 to 2025. Clinical data, imaging findings, microbiological Results, and treatment regimens were collected and analyzed.

**Results:** Six patients were included (4 men, 2 women) with

a mean age of 58 years. All patients presented with chronic cough and varying degrees of hemoptysis and weight loss. Thoracic CT scans revealed cavitary lesions with fungal balls in one patient (aspergilloma) and nodular or consolidative infiltrates in the others. All patients received antifungal therapy with voriconazole; one patient developed hepatic cytolysis, requiring treatment adjustment. Microbiological confirmation was obtained via sputum culture in four cases.

**Conclusion:** CPA represents a diagnostic and therapeutic challenge, often mimicking other chronic pulmonary diseases such as tuberculosis. Imaging is pivotal, particularly for detecting aspergillomas. Voriconazole remains the preferred treatment, though hepatotoxicity is a potential complication requiring close monitoring. Early recognition and tailored antifungal therapy are essential to improve outcomes. Chronic pulmonary aspergillosis is an underdiagnosed condition with significant morbidity.

#### Abstract EP 059: Circulation of respiratory pathogens in Tunisia during the early 2025/2026 season (Weeks 40-45)

Gara E<sup>1</sup>, Dhaouadi S<sup>2</sup>, Abid S<sup>3</sup>, Ben Youssef F<sup>1</sup>, El Ghorb H<sup>4</sup>, Bouabid L<sup>1</sup>, Mokdad M<sup>1</sup>, Boutiba I<sup>3</sup>, Ben Alaya N<sup>2</sup>

1. National Observatory of Emerging and Reemerging Diseases, Tunis, Tunisia;
2. University of Tunis El Manar, Faculty of medicine of Tunis, Tunisia;
3. National Reference Laboratory, Charles Nicolle Hospital;
4. Directorate of Primary Health Care Services (DSSB)

**Introduction:** Acute Respiratory infections represent a significant seasonal health burden in Tunisia. Since week (W)40, an annual seasonal surveillance system has been implemented, covering both influenza and other respiratory pathogens, through sentinel and non-sentinel sites.

**Methods:** Respiratory specimens were collected from patients presenting with Influenza-Like Illness (ILI) and Severe Acute Respiratory Infection (SARI) according to the case definition at sentinel and non-sentinel sites across Tunisia. During the period from W40 to W45, 16 of 140 ILI sites (11.4%) based in primary healthcare centers and 8 of 15 SARI sites (53.3%) based in regional and university hospitals reported data.

**Results:** From W40 to W45, a total of 266 specimens were tested, with weekly numbers ranging from 28 in W40 to 72 in W45, with a mean of 44.3 +/- 16.4 specimens per week. Among all specimens, 134 tested positive, resulting in an overall PP of 50.4%. Weekly PP increased from 35.7% in W40 to 56.7% in W44, reaching 52.8% in W45. Co-infections were detected in 48 cases (35.8% of positive tests). RSV circulation remained very low (0.4%; n=1). No influenza A/B or SARS-CoV-2 cases were detected during this period. Among bacterial pathogens, *Haemophilus influenzae* was the most frequent (cumulative PP: 21%; n=52), followed by *Streptococcus pneumoniae* (15.5%; n=38). Within sentinel sites, positivity was higher in males (52.2%; n=69). The highest PP were observed in children under 5 years and adults aged 15-64 years (35.8% each; n= 48). Geographically, 44% (n=59) of positive tests were reported from centers located in northern regions.

**Conclusion:** The early 2025/2026 respiratory season (weeks 40-45) showed a moderate but persistent increase in non-influenza respiratory pathogens, particularly rhinovirus and *Haemophilus influenzae*, contributing to a notable burden of co-infections. Sustained sentinel reporting, promotion of influenza vaccination in high-risk groups, and reinforcement of general non-pharmaceutical measures remain essential, especially in view of the expected RSV circulation.

#### Abstract 060: Clinical and allergological characteristics of contact dermatitis in Tunisian diabetic patients

Sridi C<sup>1</sup>, Brahém A<sup>2</sup>, Kacem I<sup>3</sup>, Chelly F<sup>1</sup>, Belhadj N<sup>1</sup>, Fki A<sup>1</sup>, Maoua M<sup>1</sup>

1. University of Sousse, Faculty of Medicine of Sousse, Sahloul University Hospital, Sousse, Tunisia;
2. University of Sousse, Faculty of Medicine of Sousse, Haj Ali Soua Regional Hospital, Ksar Hellal, Monastir, Tunisia;
3. University of Sousse, Faculty of Medicine of Sousse, Farhat Hached University Hospital, Sousse, Tunisia

**Introduction:** Diabetic patients may exhibit distinct cutaneous reactions due to diabetes-related immunological and metabolic alterations. These changes can influence both the presentation and the etiology of contact dermatitis (CD). To describe the sociodemographic, clinical, and allergological profile of Tunisian diabetic patients diagnosed with contact dermatitis.

**Methods:** A retrospective descriptive study was conducted on diabetic patients diagnosed with CD at the Dermato-Allergy Unit of Farhat Hached University Hospital. Data were collected using a standardized form including sociodemographic and medical characteristics, occupational history, clinical features, and patch-test Results performed with the European Standard Series allergens.

**Results:** A total of 30 diabetic patients were included, with a mean age of 50.6 +/- 10.7 years and a male predominance (sex ratio = 1.5). Mean occupational seniority was 17.7 +/- 11.8 years. Clinical presentation was polymorphic, with erythematous-vesicular lesions being the most common (55.6%). The hands were the most frequently affected site (63.3%). Allergic contact dermatitis represented the predominant diagnosis (60.7%), followed by irritant contact dermatitis (7.1%). An occupational origin was identified in 28.6% of cases. Patch tests were positive in 40% of patients. The most frequent allergens were chromium (32.1%), nickel (25%), cobalt (25%), formaldehyde (25%), and thiuram mix (21.7%).

**Conclusion:** Diabetic patients with contact dermatitis show a high prevalence of allergic forms and increased sensitization to specific allergens. These findings highlight the need for targeted prevention strategies and tailored diagnostic and management approaches in this vulnerable population.

#### Abstract EP 061: Clinical and Functional Features of Chronic Obstructive Pulmonary Disease in Older Adults

Abdelhedi Y, Sayhi A, Abdelmoula M, Guezguez F, Ghannouchi I, Rouatbi S

Laboratory of Physiology and Functional Explorations, Sousse Faculty of medicine of Sousse, Farhat Hached hospital,

**Introduction:** Chronic obstructive pulmonary disease (COPD) remains a major public health challenge worldwide, with a particularly pronounced impact among older adults. Ageing-related structural and physiological changes of the respiratory system, combined with comorbidities and cumulative exposure to tobacco and

**Methods:** We conducted a cross-sectional observational study at Farhat Hached University Hospital (Sousse, Tunisia) from January 2023 to December 2024. Consecutive patients with COPD confirmed by post-bronchodilator spirometry (ERS/ATS 2019) were included. Participants were stratified into two age groups (>= 60 years (G1) and < 60 years (G2)).

**Results:** A total of 300 patients with COPD, aged 25 to 91 years, were included. Among them, 52% were aged 60 years or older, with a significant male predominance (85%) and a substantial median cumulative smoking exposure (30.5 pack-years). Functionally, the overall population presented moderate

to severe obstructive ventilatory defect, with a median pre-bronchodilator FEV<sub>1</sub> of 46% predicted. Older patients exhibited significantly worse functional impairment, characterized by lower lung volumes, reduced bronchodilator responsiveness, and a higher prevalence of GOLD stages

**Conclusion:** This study highlights a more severe, less reversible, and more symptomatic COPD phenotype in older adults. These findings emphasize the critical need for age-tailored management strategies, combining pulmonary rehabilitation, close functional monitoring, and multidisciplinary care to optimize outcomes and quality of life in elderly patients. Keywords: COPD, older adult, respiratory function, spirometry

### Abstract 062: Clinical and Microbiological Profile of Malignant External Otitis

Khribi M, Albouchi N, Bejaoui O, Boubaker D, Gnaba K

ENT Department, Ibn El Jazzar University hospital, Kairouan, Tunisia

**Introduction:** Malignant external otitis (MEO) is an invasive infection that can involve the external auditory canal and the skull base up to the contiguous soft tissues. Considering the changing face of MEO, the aim of this study was to

**Methods:** We conducted a cross-sectional study including patients with MEO who underwent treatment at the ENT Department of Ibn El Jazzar Teaching Hospital of Kairouan (Tunisia) from January 2013 to August 2021.

**Results:** Thirty-eight patients with MEO were treated as inpatient at our ENT department. Among them, 17 were males and 21 were females. The mean patient age was 67.7 +/- 12.9 years (35-98). All of them had uncontrollable diabetes. Chronic renal failure was noticed in 3 cases (8%). One patient had chemotherapy for breast cancer. Otalgia (100%) and otorrhea (76.3%) were the commonest symptoms. Facial palsy was present in 2 patients (5.3%).

**Conclusion:** Uncontrollable diabetes is the major risk factor of MEO. Otalgia and Otorrhea are the commonest symptoms. *Pseudomonas aeruginosa* was the most commonly seen organism in this condition. Fungal infection should be considered especially when evolution is unfavorable. Treatment is based on prolonged intravenous antibacterial or antifungal drugs.

### Abstract 063: Clinical and Psychological Profile of Pediatric Alopecia Areata

Maaref M<sup>1</sup>, Ghariani Fetoui N<sup>1</sup>, Ben Rejeb M<sup>1</sup>, Mkhinini H<sup>2</sup>, Mokni S<sup>1</sup>, Aounallah A<sup>1</sup>, Ghariani N<sup>1</sup>, Denguezli M<sup>1</sup>

1. Department of Dermatology, Farhat hached University hospital, Faculty of Medicine of Sousse, University of Sousse

2. Department of Dermatology, Ibn El Jazzar University hospital, Faculty of Medicine of Sousse, University of Sousse

**Introduction:** Alopecia areata (AA) is a common non-scarring alopecia in children, driven by autoimmune mechanisms. Beyond its clinical manifestations, AA causes a substantial psychosocial burden on affected children and their families.

**Methods:** A retrospective single-center study was conducted from January to May 2025, including 30 children with AA. Disease severity was assessed using the Severity of Alopecia Tool (SALT) score, and the presence of eyelash/eyebrow loss, ophiasis pattern, and nail involvement was recorded. The Children's Dermatology Life Quality Index (CDLQI), Family Dermatology Life Quality Index (FDLQI), and Quality of Life in a Child's Chronic

**Results:** The mean age was 10.4 years, with a female predominance (2:1). Parental questionnaires were

predominantly completed by mothers, whose mean age was 41.3 years old. Psychological factors were identified in 30% of the children, often preceding or occurring concomitantly with the onset of AA. The most frequently reported causes were parental divorce, family conflicts, sibling rivalry and financial strain. The mean disease duration was 31.5 months. The mean CDLQI score was 8.2 +/- 7.3, selectively impacting peer relationships ( $p < 0.001$ ), daily and leisure activities ( $p = 0.002$ ), causing sleep disturbances ( $p = 0.003$ ) and stigmatization ( $p = 0.002$ ). The CDLQI score correlated significantly with the SALT score ( $p = 0.039$ ;  $\rho = 0.378$ ) (table 1), loss of eyelashes ( $p = 0.022$ ), eyebrows ( $p = 0.004$ ), and nail involvement ( $p = 0.002$ ). For parents, the mean FDLQI score was 11.3 +/- 7.3, with a predominant impact on social life ( $p = 0.001$ ), daily activities ( $p < 0.001$ ), emotional state ( $p < 0.001$ ), and physical well-being ( $p < 0.001$ ).

**Conclusion:** These findings emphasize the importance of integrating routine QOL assessments in clinical follow-up to better tailor care. Furthermore, a proactive, educational role is essential.

### Abstract 064: Clinical evolution of peripartum cardiomyopathy: Analysis of short-, medium-, and long-term prognosis

Ghabri N, Khanfir F, Abdelhedi O, Bahloul N, Miladi M

Hedi Chaker University Hospital, Sfax, Tunisia

**Introduction:** Peripartum cardiomyopathy (PPCM) is a rare but potentially life-threatening condition that occurs at the end of pregnancy or in the months following delivery. Its prognosis is variable, ranging from complete recovery to progression to chronic heart failure or

**Methods:** This is a retrospective, descriptive, single-center study conducted over a period of 13 years from January 2010 to December 2023 at the Hedi Chaker Hospital in Sfax (Tunisia). The collected population includes 27 patients hospitalized for PPCM, diagnosed according to the criteria of the European Society of Cardiology.

**Results:** In this series, the median age of patients with postpartum cardiomyopathy was 33 years, with a majority being multiparous (59.3%). The diagnosis was established in the postpartum period in 52% of cases. The predominant symptom was dyspnea, found in 85% of patients, mainly in NYHA functional class III-IV. The median initial left ventricular ejection fraction (LVEF) was 30%. Obstetric complications were noted in 37% of cases, including gestational hypertension, severe preeclampsia sometimes complicated by HELLP syndrome. Thromboembolic events were reported, with pulmonary embolisms (7.4%) and intracavitary thrombi, in the left ventricle (7.4%) or in the left atrium (3.2%). From a progression standpoint, three patients died in the hospital (11.1%) and six cases of persistent dilated cardiomyopathy (22.2%) were observed, including one late death (3.7%)

**Conclusion:** Peripartum cardiomyopathy remains a serious condition, often complicated, with a significant mortality rate. Early diagnosis, prompt multidisciplinary management, and rigorous postpartum follow-up significantly improve the prognosis. Our Results highlight the impact of multiparity, inadequate prenatal care, and complications on maternal outcomes.

### Abstract 065: Clinical Impact of Benign Prostatic Hyperplasia on Sexual Health in Elderly Men

Lahouar R, Mahdi M, Ben Khalifa B, Naouar S, Gazzah W, Braiek S

Urology department, Ibn Jazzar Hospital, Kairouan, University of Sousse, faculty of medicine of Sousse, Tunisia

**Introduction:** The impact of lower urinary tract symptoms (LUTS) related to benign prostatic hyperplasia (BPH) and their severity on sexuality remains a subject of controversy. Our study aims to establish the relationship between the severity of LUTS and their

**Methods:** This is a cross-sectional analytical study involving 30 patients aged 65 years and older presenting with LUTS associated with erectile dysfunction (ED). The severity of urinary symptoms was assessed using the IPSS score, while ED severity was evaluated using the IIEF-5 score.

**Results:** The mean age of the patients was 70.9 years, with a predominance of those under 75 years old (77%). All participants were sexually active. Mixed lower urinary tract symptoms (related to both the voiding and storage phases) were predominant (47%). The IPSS score ranged from 10 to 34 and indicated, in most cases (60%), severe LUTS. The majority of patients (94%) were dissatisfied with their quality of life, and half of the participants reported being highly bothered in their

**Conclusion:** It is recommended to assess the sexual function of every patient presenting with LUTS, and similarly, to investigate the presence of LUTS in patients consulting for ED.

### Abstract 066: Community-Acquired Pneumonia in the Emergency Department: Clinical Profile, Severity Assessment, and Management Pathways in a Tunisian Cohort

Chakroun H<sup>1</sup>, Rouis S<sup>1</sup>, Ketata I<sup>2</sup>, Mabrouk I<sup>2</sup>, Kharrat I<sup>3</sup>, Boudriga H<sup>1</sup>, Bouhamed C<sup>2</sup>

1. Department of Infectious Diseases, Ibn Jazzar University Hospital, Kairouan, Tunisia

2. Department of Emergency Medicine, Ibn Jazzar University Hospital, Kairouan, Tunisia

3. Department of Pulmonology, Ibn Jazzar University Hospital, Kairouan, Tunisia

**Introduction:** Community-acquired pneumonia (CAP) is a common and potentially severe condition, frequently encountered in emergency departments. Given its significant impact on morbidity, mortality, and healthcare costs, early and efficient management-based on validated tools such as the CRB-65 score-is essential.

**Methods:** We conducted a descriptive, observational, and retrospective study in the Emergency Department of Ibn Jazzar Hospital, Kairouan, from November 2023 to March 2024. Patients diagnosed with CAP were included based on clinical, biological, and radiological criteria. Collected data included epidemiological, clinical, paraclinical, therapeutic, and outcome variables. The CRB-65 score was used to stratify severity and guide patient orientation.

**Results:** We included thirty patients. The mean age was 64.7 years, with an equal sex distribution. Eighteen patients (60%) had at least one comorbidity, mainly chronic pulmonary diseases (66.6%), followed by diabetes (50%) and hypertension (38.8%). The most frequent clinical symptoms were cough (80%), dyspnea (70%), and fever (56.7%). Application of the CRB-65 score guided the orientation of 10 patients (33.3%) to outpatient management, 15 patients (50%) to hospitalization in a medical ward, and 5 patients (16.7%) to intensive care.

**Conclusion:** The findings of this study are consistent with trends described in the literature on community-acquired pneumonia in emergency settings. The predominance of older patients with multiple comorbidities-especially chronic respiratory disease and diabetes-emphasizes the need for early recognition and structured severity assessment. The CRB-65 score proved useful for rapid triage, helping distinguish patients suitable for outpatient management from those requiring hospitalization or intensive care.

### Abstract 067: Comorbidity Counts: A Prospective Evaluation of the Pediatric Comorbidity Index as a Predictor of Postoperative Complications after Emergency Abdominal Surgery

Issaoui A, Zouari M, Belhajmansour M, Hbaieb M, Bendhaou M, Mhiri R

Department of pediatric surgery, Hedi chaker Hospital of sfax

**Introduction:** Pre-existing comorbidities are known to influence surgical outcomes in children, but their predictive value in emergency abdominal surgery remains underexplored. This study assessed the role of the Sun's Pediatric Comorbidity Index (SPCI) in predicting postoperative complications.

**Methods:** A prospective cohort study was conducted from January 2022 to December 2024 in the Department of Pediatric Surgery, Hedi Chaker University Hospital, Sfax, Tunisia. All patients under 14 years undergoing emergency abdominal surgery were included. Data on demographics, comorbidities, clinical status, and perioperative course were collected.

**Results:** Among 582 children (median age: 9 years; 66.7% male), postoperative complications occurred in 72 patients (12.4%). These complications included surgical site infections (n=35), adhesive small bowel obstructions (n=13), postoperative sepsis (n=8), intra-abdominal abscess (n=7), respiratory infections (n=4), urinary tract infections (n=3), and prolonged postoperative bleeding (n=2). Children who developed complications had significantly higher SPCI scores (median 2 vs. 1,  $p < 0.001$ ). An SPCI  $\geq 3$  was observed in 82 patients (14.1%), with a markedly higher complication rate compared to those with lower scores (35.4% vs. 9.2%,  $p < 0.001$ ). On multivariate analysis, SPCI  $\geq 3$  independently predicted postoperative morbidity (Odds ratio= 4.84; 95% CI: 2.59-9.03;  $p < 0.001$ ).

**Conclusion:** The Sun's Pediatric Comorbidity Index is a powerful predictor of postoperative complications in pediatric emergency abdominal surgery. Routine use of SPCI may enhance preoperative risk assessment, support individualized perioperative strategies, and optimize outcomes in high-risk children.

### Abstract 068: Comparative Performance of the Perfusion Index and Shock Index in Predicting Hemorrhagic Risk During Lumbotomy: A Prospective Study

Ajmi M, Chrigui R, Ben Hammeda H, Guellim S, Elkissi K, Youzbechi A, Shkiri Z, Kahloul M, Naija W

Department of Anesthesiology and Resuscitation, Sahloul University Hospital, Sousse, Tunisia

**Introduction:** Urologic surgery carries a significant risk of bleeding, particularly during renal and prostatic procedures, thereby increasing morbidity, mortality, and length of hospital stay. Despite advances in minimally invasive techniques and optimized anesthetic protocols, early prediction of bleeding remains

**Methods:** We conducted a prospective, analytical study in the

urology operating room at Sahloul University Hospital (Sousse) over a four-month period (February to May 2025). All patients scheduled for lumbotomy who met the inclusion criteria were enrolled. Standard monitoring (heart rate, blood pressure, SpO<sub>2</sub>, ECG) was applied, and anesthesia followed a uniform protocol.

**Results:** A total of 23 patients were included, with a mean age of 60.2  $\pm$  13.7 years and a mean BMI of 28.4  $\pm$  2.6. The most frequent comorbidities were hypertension (34.8%) and diabetes (8.7%). Pyelotomy was the most commonly performed procedure (52.2%). Mean intraoperative blood loss was 818  $\pm$  851 mL; 34.8% of patients required blood transfusion and 26.1% received catecholamines. Intraoperatively, shock index increased progressively, while perfusion index showed mild fluctuations. Prognostic performance (AUC-ROC) was higher for perfusion index in predicting transfusion (0.80 vs 0.66) and catecholamine use (0.84 vs 0.78). No deaths or major postoperative complications were recorded, and mean length of hospital stay was 10.6  $\pm$  9.9 days

**Conclusion:** Perfusion index and shock index are simple and useful tools for predicting hemorrhagic risk during lumbotomy, with perfusion index showing better predictive performance. Their use should complement clinical assessment. Further studies are needed to validate these indices and establish standardized thresholds.

#### Abstract EP 069: Comparative Study of Irbesartan and Dapagliflozin on Peritoneal Oxidative Stress and Genotoxicity Induced by Dextrose in Rats

Guedri Y<sup>1</sup>, Badri C<sup>1</sup>, Dahmane R<sup>1</sup>, Azzabi A<sup>1</sup>, Rjiba K<sup>2</sup>, Assili A<sup>2</sup>, Chaieb NE<sup>2</sup>, Zellama D<sup>1</sup>, Abid Essafi S<sup>2</sup>

1. Nephrology department, Sahloul Hospital, Faculty of Medicine of Sousse, Tunisia, university of sousse;  
2. University of Monastir Faculty of Dental Medicine of Monastir

**Introduction:** While peritoneal dialysis (PD) is an effective treatment for patients with end-stage renal disease, long-term use of glucose-based dialysis fluids can harm the peritoneal membrane. This damage is largely due to oxidative stress and DNA alterations, which compromise the safety and success of the therapy. This study explored whether two drugs-irbesartan (IRB), commonly used for high blood pressure, and dapagliflozin (DAPA), a type of SGLT2 inhibitor-could help protect the peritoneum from these harmful effects.

**Methods:** Wistar rats were divided into groups and treated for 30 days with dextrose-based dialysis solution, either alone or in combination with IRB and/or DAPA. We assessed oxidative stress by measuring malondialdehyde (MDA), protein carbonyls (PC), and the activity of antioxidant enzymes like superoxide dismutase (SOD) and catalase (CAT). DNA damage was evaluated using the comet assay.

**Results:** Rats treated with dextrose alone showed a sharp increase in oxidative and DNA damage markers. In contrast, animals receiving IRB, DAPA, or both had significantly lower MDA and PC levels and improved antioxidant enzyme activity. The combination of IRB and DAPA provided the most protection, with DNA damage scores almost returning to normal levels.

**Conclusion:** Irbesartan and dapagliflozin-especially when used together-show real potential in reducing oxidative and genetic damage caused by peritoneal dialysis fluids. These findings open the door to safer and more biocompatible treatment strategies for patients relying on long-term PD.

#### Abstract EP 070: Conservative or Surgical Management of Perianal Abscess and Fistula in-ano in Infants

Issaoui A, Belhaj Mansour M, Tounsi MK, Zouari M, Ben dhaou M, Mhiri R

Department of pediatric surgery, Hedi Chaker Hospital, Sfax, Tunisia

**Introduction:** Perianal abscesses and fistula-in-ano are common diseases in infants and children that develop from infection in abnormally deep crypts of Morgagni. They are often encountered in infants younger than 12 months.

**Methods:** A retrospective study was conducted of all patients who were younger than 2 years and presented with perianal abscess or fistula in-ano to our Department of Pediatric Surgery in the Hedi Chaker Hospital Of Sfax during a 15-year period (January 2006 to Decembre 2021). Patients were divided into those who underwent surgical drainage and those who did not.

**Results:** The study included 67 infants. The mean age was 13 months. Perianal abscess was found in 50 patients (39 males), and fistula-in-ano in 17 patients. No infant had an underlying illness. The mean duration of symptomatology was 6 months. Surgical management was performed by incision and drainage with or without general or topical anesthesia in 34 infants and by fistulotomy in 14 cases. Before and following drainage, all patients received antibiotics for at least a week. Altogether, 16 infants were treated with antibiotics with local care alone. No cases had an evolution toward fistula-in-ano after abscess incision. Recurrent fistula after the fistulectomy was noted in only one case associated with Crohn's disease

**Conclusion:** The management of perianal abscess and fistula in-ano remains controversial. Further randomized prospective studies are needed to determine new lesion classification and appropriate treatment of perianal abscess and fistula-in-ano.

#### Abstract 071: Contact sensitization to Para-Phenylenediamine: Prevalence and associated factors

Sridi C<sup>1</sup>, Brahém A<sup>2</sup>, Kacem I<sup>3</sup>, Chelly F<sup>1</sup>, Belhadj N<sup>1</sup>, Fki A<sup>1</sup>, Chatti S<sup>3</sup>, Maoua M<sup>1</sup>

1. University of Sousse, Faculty of Medicine of Sousse, Sahloul University Hospital, Sousse, Tunisia; 2. University of Sousse, Faculty of Medicine of Sousse, Haj Ali Soua Regional Hospital, Ksar Hellal, Monastir, Tunisia;  
3. University of Sousse, Faculty of Medicine of Sousse, Farhat Hached University Hospital, Sousse, Tunisia

**Introduction:** Para-phenylenediamine (PPD) is a widely used aromatic amine dye and a well-known potent allergen. It is commonly found in hair dyes, temporary tattoos, and various industrial products, making exposure frequent in both the general population and certain occupational settings. PPD is increasingly recognized as an important cause of allergic contact dermatitis, often responsible for severe or persistent reactions. To assess the prevalence and associated factors of PPD contact sensitization among Tunisian patients undergoing patch testing.

**Methods:** A retrospective study was conducted over a 30-year period among patients consulting at the Dermato-Allergology Unit of the University Hospital Farhat Hached of Sousse (Tunisia) and tested with the allergens of the European Standard Series. Sociodemographic, occupational, and clinical data were compared between patients with positive PPD patch tests and those with negative **Results.**

**Results:** Among the 2140 patients tested for PPD, 71 (3.3%) showed a positive allergic reaction. PPD sensitization was significantly associated with a history of atopic dermatitis (p = 0.03; OR = 0.37 [0.16-0.84]), foot involvement (p = 0.032; OR = 0.15 [0.11-0.65]), oozing lesions (p = 0.008; OR = 0.36 [0.17-0.79]), and an occupational origin of dermatitis (p < 10<sup>-3</sup>; OR =

3.29 [1.81-5.97]).

**Conclusion:** PPD sensitization, although relatively uncommon (3.3%), is associated with specific individual and occupational factors. These findings support the role of PPD as a major occupational allergen in certain sectors and highlight the need for careful exposure assessment and targeted prevention strategies.

### Abstract 072: Contribution of Ischemic Scores in Patients Admitted for NSTEMI to the Emergency Department

Hosni D, Tlemceni M, Kchaou I, Othmani S, Hedhli H, Jouini S

Emergency department, Charles Nicolle Hospital, Tunis, Tunisia

**Introduction:** NSTEMI is a cardiovascular emergency requiring rapid risk stratification to optimize patient management. Ischemic scores are used to predict prognosis and guide therapeutic decision-making. To describe the prognostic value of ischemic scores in patients admitted for NSTEMI, and to determine their usefulness in risk stratification and in guiding therapeutic strategies.

**Methods:** We conducted a retrospective descriptive comparative study over a 19-month period in the emergency department. Patients were divided into two groups based on the presence or absence of complications: complicated NSTEMI and non-complicated NSTEMI. The diagnosis of NSTEMI was established based on clinical, electrocardiographic, and biological criteria. Complications included conduction disorders, arrhythmias, cardiac arrest, mechanical complications, and involvement of other organs.

**Results:** We collected 201 patients divided into two groups: complicated NSTEMI (n=49) and non-complicated NSTEMI (n=152). Median age = 62 years; sex ratio = 1.75. Scores predicting the occurrence of complications such as acute pulmonary edema were significantly associated: EDACS <16 (p=0.045), HEART score (p=0.014), and TIMI score (p=0.001). Scores associated with the occurrence of AV block included: TIMI score (p=0.026), GRACE score (p=0.039), and HEART score (p=0.024). Scores associated with the occurrence of cardiac arrest were: GRACE score (p=0.022) and CRUSADE score (p=0.033).

**Conclusion:** Ischemic scores help identify high-risk NSTEMI patients and guide therapeutic management.

### Abstract 073: Correlation Between Apgar Score and 30-Day Mortality in Neonates Undergoing Surgery for Esophageal Atresia

Issaoui A, Zouari M, Jarbou O, Hbaieb M, Ben dhaou M, Mhiri R

Department of pediatric surgery, Hedi Chaker University Hospital, Sfax, Tunisia

**Introduction:** Despite advances in neonatal surgery and intensive care, esophageal atresia (EA) remains associated with substantial early postoperative mortality, particularly in resource-limited settings. Identifying reliable prognostic markers is crucial for improving perioperative management and guiding family counseling.

**Methods:** We retrospectively reviewed all neonates (<=28 days) who underwent primary surgery for EA at Hedi Chaker University Hospital, Sfax, Tunisia, between January 2010 and December 2024.

**Results:** A total of 113 neonates underwent surgery during the 15-year period (52.2% male; mean gestational age 37.5 +/- 2.6 weeks; mean birth weight 2711 +/- 776 g). The mean 5-minute

Apgar score was 8.9 +/- 1.3, with 28 patients (24.8%) presenting a score <=8. The overall 30-day mortality rate was 25.7% (n = 29). The main causes of death included respiratory insufficiency (n = 10), nosocomial infections (n = 8), cardiac failure (n = 5), and septic shock (n = 5).

**Conclusion:** A low 5-minute Apgar score (<=8) is a strong independent predictor of early postoperative mortality in neonates undergoing surgery for EA. As an easily accessible and universally recorded parameter, Apgar scoring should be integrated into perioperative risk stratification models to enhance early identification of high-risk neonates and improve individualized management strategies.

### Abstract 074: Correlation Between Cardiac Comorbidities and the Risk of Healthcare-Associated Infections Following Major Neonatal Surgery

Jarboui O, Zouari M, Issaoui A, Hbaieb M, Ben Dhaou M, Riadh M

Department of pediatric surgery, Hedi Chaker University Hospital, Sfax, Tunisia

**Introduction:** Congenital heart disease is frequently associated with increased perioperative morbidity in neonates. Impaired hemodynamics, tissue hypoxia, and prolonged invasive monitoring may predispose these patients to infections.

**Methods:** We conducted a retrospective cohort study at Hedi Chaker University Hospital, Sfax, Tunisia, including all neonates (<=28 days) who underwent major thoracic or abdominal surgery between April 2015 and March 2025. Univariable and multivariable logistic regression analyses were performed.

**Results:** A total of 361 neonates underwent major abdominal or thoracic surgery during the 10-year study period. The male-to-female ratio was 1.3:1. The most common surgical conditions were esophageal atresia (n = 105), duodenal atresia (n = 42), and anorectal malformations (n = 39). A prenatal diagnosis was documented in 105 patients (29.1%). The median gestational age and birth weight were 37 weeks and 2650 g, respectively. Overall, 99 neonates (27.4%) developed one or more HAI during their postoperative course. These infections included Surgical site infections (n=44), Pneumonia (n= 41), Postoperative sepsis (n=36), Bloodstream infections (n=21), and Urinary tract infections (n=2). The incidence of cardiac comorbidities was significantly higher in patients who developed postoperative HAIs (33.3% vs. 14.9%, p<0.001). On multivariable regression, cardiac comorbidities independently predicted HAIs (OR: 2.205; 95% CI: 1.241-3.914; p=0.007).

**Conclusion:** Cardiac comorbidities significantly increase the risk of healthcare-associated infections following major neonatal surgery. These findings underscore the need for targeted perioperative surveillance and reinforced infection prevention protocols in neonates with congenital heart disease.

### Abstract 075: Correlation Between Duration of Postoperative Intubation and the Risk of Nosocomial Infections After Surgical Repair of Esophageal Atresia

Tounsi MK<sup>1,2</sup>, Zouari M<sup>1,2</sup>, Jarbou O<sup>1,2</sup>, Belhajmansour M<sup>1,2</sup>, Ben Dhaou M<sup>1,2</sup>, Mhiri R<sup>1,2</sup>

1. Faculty of medicine of Sfax, University of Sfax, Sfax, Tunisia;

2. Department of pediatric surgery, Hedi Chaker University Hospital, Sfax, Tunisia

**Introduction:** Esophageal atresia (EA) is a life-threatening congenital anomaly requiring urgent neonatal surgery. Despite improvements in perioperative management, nosocomial

infections (NIs) remain frequent and significantly affect morbidity and mortality.

**Methods:** We conducted a retrospective observational study including all neonates ( $\leq 28$  days) who underwent surgical repair of EA at Hedi Chaker Hospital, Sfax, Tunisia, from January 2010 to December 2024. Demographic, clinical, and perioperative data were collected. NIs were defined according to Centers for Disease Control and Prevention (CDC) criteria.

**Results:** During the study period, 113 neonates underwent surgical repair for esophageal atresia, including 59 males (52.2%). Prenatal diagnosis was achieved in 10 cases, and 25 neonates were outborn. The mean gestational age was 37.5  $\pm$  2.6 weeks. Mean birth weight was 2711  $\pm$  776 g. Cardiac anomalies were present in 37 patients (32.7%). Postoperatively, the mean intubation time was 2.3  $\pm$  1 days. Nosocomial infections occurred in 38 neonates (33.6%) and included ventilator-associated pneumonia (n=19), sepsis (n=13), surgical site infections (n=11), and bloodstream infections (n=9). Twenty-nine patients (25.7%) died, including 8 deaths (27.6%) directly attributable to severe NIs. Compared with non-infected patients, those with NIs had significantly longer postoperative intubation duration (3  $\pm$  1.1 days vs 1.9  $\pm$  0.6 days,  $p < 0.001$ ). On multivariable analysis, intubation duration  $> 2$  days was identified as an independent predictive factor of NIs (OR: 12.690;  $p < 0.001$ ).

**Conclusion:** Prolonged postoperative intubation ( $> 2$  days) is a major independent predictive factor of nosocomial infections following EA repair. Early extubation strategies, when clinically feasible, should be emphasized as part of infection prevention protocols in neonatal surgical care.

#### Abstract 076: Correlation between Postoperative Intubation Duration and Anastomotic Leak after Primary Esophageal Anastomosis for Esophageal Atresia

Jarboui O, Zouari M, Issaoui A, Belhajmansour M, Ben Dhaou M, Mhiri R

Department of pediatric surgery, Hedi Chaker University Hospital, Sfax, Tunisia

**Introduction:** Anastomotic leak remains the most frequent and severe complication following primary esophageal anastomosis for esophageal atresia (EA), with significant morbidity and mortality. The aim of this study was to assess the impact of prolonged postoperative intubation on the

**Methods:** We conducted a retrospective study from January 2010 to March 2025 at the Department of Pediatric Surgery, Hedi Chaker University Hospital, Sfax, Tunisia. All neonates ( $\leq 28$  days) undergoing primary esophageal anastomosis for EA were included. Anastomotic leak was defined by clinical or radiological evidence of salivary extravasation.

**Results:** A total of 107 neonates underwent primary esophageal repair, with 53.3% being male. The distribution of EA types in the cohort was as follows: type III in 93 patients (86.9%), type IV in 5 patients (4.7%), and type V in 9 patients (8.4%). Primary end-to-end anastomosis was performed in all patients. Esophageal anastomosis was tension-free in 86 cases and with slight tension in 21 cases. A prenatal diagnosis was made in 6 cases, and 25 neonates (23.4%) were outborn. The mean gestational age was 37.5  $\pm$  2.6 weeks. Overall, 19 patients (17.8%) developed an anastomotic leak. The median duration of postoperative intubation was 37 hours, and 28 neonates (26.2%) required intubation  $> 60$  hours. Postoperative intubation time was significantly higher in leak group neonates (63 hours vs 35.5 hours,  $p = 0.008$ ). On multivariable analysis, intubation duration  $> 60$  hours was identified as an independent predictor of anastomotic leak (OR 3.88; 95% CI 1.18-12.70;  $p = 0.025$ ).

**Conclusion:** Prolonged postoperative intubation ( $> 60$  hours) is an independent risk factor for anastomotic leak following primary esophageal anastomosis in neonates with EA. Early identification of high-risk patients may help refine perioperative strategies, reduce complications, and improve surgical outcomes.

#### Abstract EP 077: Correlation between Prematurity and Postoperative Sepsis in Neonates Undergoing Surgery for Esophageal Atresia

Jarboui O, Zouari M, Issaoui A, Hbaieb M, Ben Dhaou M, Mhiri R

Department of pediatric surgery, Hedi Chaker University Hospital, Sfax, Tunisia

**Introduction:** Postoperative sepsis (POS) is a major source of morbidity and mortality in neonates undergoing surgery for esophageal atresia (EA). Prematurity is frequent in this population and may compromise immune function, increase susceptibility to infection, and impair postoperative recovery.

**Methods:** We conducted a retrospective study from January 2010 to December 2024 in the Department of Pediatric Surgery, Hedi Chaker University Hospital, Sfax, Tunisia. All neonates ( $\leq 28$  days) who underwent surgery for EA were included. Postoperative sepsis was defined according to Centers for Disease Control and Prevention (CDC) criteria as culture-proven sepsis or systemic infection requiring antimicrobial therapy within 30 days postoperatively.

**Results:** During the 15-year study period, 113 neonates underwent surgery for EA, with 52.2% being male. The distribution of EA types in the cohort was as follows: type I in 6 patients (5.3%), type II in 1 patient (0.9%), type III in 92 patients (81.4%), type IV in 5 patients (4.4%), and type V in 9 patients (8%). Primary end-to-end anastomosis was performed in 106 patients, while 7 patients with long gap EA underwent esophagostomy and gastrostomy. Mean gestational age was significantly higher in neonates with POS (34.9  $\pm$  2.4 vs. 38.1  $\pm$  2.2,  $p < 0.001$ ). Multivariate analysis confirmed gestational age  $\leq 37$  weeks as an independent predictive factor of POS (OR = 7.895; 95% CI: 1.046-59.577;  $p = 0.045$ ).

**Conclusion:** Prematurity is an independent predictive factor of postoperative sepsis in neonates undergoing EA repair. Identifying premature neonates as a high-risk group is essential for targeted perioperative strategies and intensified postoperative surveillance.

#### Abstract 078: Correlation Between Preoperative White Blood Cell Count and the Risk of Nosocomial Infections Following Pediatric Appendectomy for Perforated Appendicitis

Issaoui A, Zouari M, Jarboui O, Hbaieb M, Ben dhaou M, Mhiri R

Department of pediatric surgery, Hedi Chaker University Hospital, Sfax, Tunisia

**Introduction:** Elevated white blood cell (WBC) count is a well-recognized marker of inflammation and disease severity in appendicitis. However, its prognostic value for postoperative complications, particularly nosocomial infections (NIs), in pediatric perforated appendicitis (PA) remains unclear.

**Methods:** We conducted a prospective cohort study from January 2022 to December 2024 in the Department of Pediatric Surgery, Hedi Chaker University Hospital, Sfax, Tunisia. Children under 14 years with intraoperatively confirmed PA were included. Preoperative laboratory values were collected,

and postoperative outcomes were monitored. Independent predictive factors of NIs were identified using multivariate logistic regression analysis.

**Results:** A total of 113 children underwent appendectomy for PA during the study period. The median age was 9 years, and 64.6% were male. The median duration of symptoms was 49 hours. The overall incidence of NIs was 17.7% (n = 20). Median WBC count was significantly higher in the NI group compared with the non-NI group ( $19.6 \times 10^3/L$  vs.  $15 \times 10^3/L$ ,  $p < 0.001$ ). A WBC count  $>17.5 \times 10^3/L$  was observed in 75% of infected patients versus 29% of non-infected ( $p < 0.001$ ). Multivariate analysis confirmed WBC  $>17.5 \times 10^3/L$  as an independent predictive factor of NIs (Odds ratio= 4.43; 95% CI: 1.32-14.80;  $p = 0.016$ ).

**Conclusion:** High preoperative WBC count is strongly associated with an increased risk of postoperative nosocomial infections in children undergoing appendectomy for perforated appendicitis. This readily available marker could be integrated into perioperative risk stratification to enhance surveillance and guide preventive strategies

### Abstract EP 079: Correlation Between SARS-CoV-2 Ct Values and Epidemiological Trends Across Six COVID-19 Waves in Tunisia (2020-2022)

Handous I, Maatouk Y, Zaibi O, Khrouf M, Marzouk M, Mezgar Z, Ben Aleya N, Boukadida J, Hannachi N

Laboratory of Microbiology, University Hospital of Farhat Hached, Sousse, Tunisia. Faculty of Medicine of Sousse, Tunisia; Ministry of Health, National Observatory of Emerging and New Diseases, Tunis, Tunisia

**Introduction:** The COVID-19 pandemic has evolved in successive waves, driven by emerging SARS-CoV-2 variants, changing population immunity, and public health interventions. In settings with limited genomic sequencing capacity, RT-PCR cycle threshold (Ct) values, which inversely reflect viral load, can

**Methods:** We retrospectively analyzed 14,723 nasopharyngeal swabs collected from patients in a hospital emergency department between March 2020 and September 2022. Among these, 4,088 (27.8%) tested positive for SARS-CoV-2. Ct values, positivity rates, and demographic characteristics (age and sex) were compared across six epidemic waves.

**Results:** Six epidemic waves were identified during the study period. The fifth wave exhibited the highest positivity rate (30.1%) and the lowest median Ct values, indicating elevated viral circulation. The proportion of high viral load cases (Ct  $< 24$ ) increased markedly from 13.8% in wave 1 to 57.5% in wave 5. Younger adults displayed lower Ct values during later waves, while older adults (60-69 years) had higher positivity rates. Ct values differed significantly across waves, age, and sex groups ( $p < 0.001$ ). During early waves, median Ct values were inversely correlated with case counts ( $r = -0.746$ ,  $p = 0.013$ ), with a maximal predictive lag of three weeks; this association weakened in later waves.

**Conclusion:** Ct values provide a practical and accessible tool for early detection of rising SARS-CoV-2 transmission, especially in regions with limited access to genomic surveillance. Monitoring Ct trends can inform public health decision-making, guide timely interventions, and enhance epidemic preparedness. Integrating Ct-based indicators into routine surveillance may strengthen the response to future epidemic waves and improve the allocation of health resources.

### Abstract 080: Cutaneous leishmaniasis in central Tunisia: emerging trends and persistent challenges

Saadaoui B<sup>1</sup>, Chouaieb H<sup>1</sup>, Ghariani Fetoui N<sup>1</sup>, Mkhini H<sup>1</sup>, Lahouel M<sup>1</sup>, Aounallah A<sup>1</sup>, Mokni S<sup>1</sup>, Fathallah A<sup>1</sup>, Ghariani N<sup>1</sup>, Denguezli M<sup>1</sup>

1. Department of Dermatology, Farhat Hached University Hospital

2. Laboratory of Parasitology and Mycology, Farhat Hached University Hospital

**Introduction:** Cutaneous leishmaniasis (CL) remains a significant public health challenge in Tunisia, where it is endemic, underscoring the need for continuous surveillance, improved diagnostic capabilities, and integrated control strategies tailored to local epidemiological patterns.

**Methods:** This is a retrospective and descriptive study of patients referred to the laboratory of Parasitology Mycology and/or Dermatology Department of Farhat Hached University Hospital of Sousse, for investigation of suspected lesions for CL, between January 1st, 2017 and March 31st, 2025.

**Results:** Our study included 490 that tested positive for CL. The median age was 43 years [1-101], children population represented only 27% of the cases. A slight male predominance with a M/F ratio of 1.05. The governorate of Sousse had the majority of cases with 285 (58%), with history of travel to an endemic area in (88.7%) among them, followed by Kairouan, Mahdia, and Sidi Bouzid that also reported significant numbers, with 52 (11%), 44 (9%), and 25 (5%) respectively. Among the positive cases, 454 had a positive DE (93%), and PCR recovered the diagnosis in 32 cases. The most notable complication was atrophic scarring (5%). 232 patients were treated with intra muscular glucantime®, (70.6%) among them showed clinical improvement.

**Conclusion:** While CL continues to pose significant challenges, the insights from our study and the proposed future directions illuminate a path forward. By bridging fundamental research with applied public health strategies, we can aspire to reduce the burden of this neglected tropical disease and improve the lives of affected individuals.

### Abstract EP 081: Cutaneous Tuberculosis in Tunisia: Emerging Epidemiological Trends and Ongoing Clinical Polymorphism

Mhiri M<sup>1</sup>, Ghariani Fetoui N<sup>1</sup>, Korbi M<sup>2</sup>, Marrakchi W<sup>2</sup>, Ben Mabrouk A<sup>2</sup>, Mokni M<sup>1</sup>, Ghariani N<sup>1</sup>, Aounallah A<sup>1</sup>, Denguezli M<sup>1</sup>

1. Department of Dermatology, Faculty of Medicine of Sousse, Tunisia;

2. Faculty of Medicine of Monastir, Tunisia

**Introduction:** Tuberculosis persists as an endemic disease and a significant public health concern in the Maghreb region, including Tunisia. Its cutaneous form is characterized by significant epidemiological and clinical polymorphism, often leading to diagnostic challenges.

**Methods:** We conducted a bicentric retrospective study over a 34-year period (1991-2025), including all cases of cutaneous tuberculosis diagnosed through the correlation of epidemiological, clinical, histological, and follow-up data.

**Results:** A cohort of 74 patients was analyzed (mean age 43.9 years), with a female predominance (F/M ratio 1.9). Urban residence was reported in 48.6%, and 61.1% had low socioeconomic status. Exposure to animals and consumption of unpasteurized milk were noted in 27.8% and 44.3% of cases, respectively. Previous visceral tuberculosis and contact with a tuberculous case were reported in 15.3% and 8.3%. The mean diagnostic delay was 18.8 months. Scrofuloderma and lupus vulgaris were the most common forms (34.7% each), followed by

tuberculous gummas (15.3%) and erythema induratum of Bazin (12.5%). The tuberculin skin test was positive in 72.7%, while PCR confirmed tuberculosis in 24.3% of the 17 tested patients. Histopathology showed epithelioid giant-cell granulomas in 80.6% and caseous necrosis in 38.9%. Concomitant visceral tuberculosis occurred in 18.6%. Standard antituberculous therapy was administered to 93.1%, with a mean duration of 8 months. Outcomes were favorable in 91.7%, although relapse occurred in 8.1% after a mean of 1.6 years.

**Conclusion:** Cutaneous tuberculosis represents an extrapulmonary form of the disease whose diagnosis remains challenging. Early consideration of this entity is crucial to ensure timely and appropriate therapeutic management.

### Abstract EP 082: Descriptive Study of Sociodemographic Characteristics of Young Tunisian Tennis Players

Ksibi N<sup>1</sup>, Layouni S<sup>2</sup>, Neguez M<sup>3</sup>, Ghali H<sup>4</sup>, Loubiri I<sup>2</sup>, Grichi G<sup>2</sup>, Gaaloul B<sup>2</sup>, Rjiba C<sup>3</sup>, Jemni S<sup>2</sup>

1. Faculty Of Medicine of Sousse;
2. Physical Medicine and Rehabilitation Department, University Hospital Sahloul, Sousse 4054, Tunisia;
3. Department of Family Medicine, Farhat HACHED Hospital, University of Sousse, Sousse 4031, Tunisia;
4. Department of Preventive and Community Medicine, University Hospital Sahloul, Sousse 4054, Tunisia

**Introduction:** The sociodemographic profile of young athletes is a key determinant of health and performance. Few data exist on Tunisian youth tennis players. The aim of this study was to describe their main demographic and anthropometric characteristics.

**Methods:** A descriptive cross-sectional study was carried out between October 2023 and August 2024 among 256 competitive tennis players under 18 years of age from clubs in Sousse, Monastir, and Mahdia. Data were collected through questionnaires and physical measurements.

**Results:** The median age of participants was 9 years [8-13]. Boys represented 59.8% of the sample (n=153) and girls 40.2% (n=103). Most players were recruited from Sousse (70.3%). The median BMI was 17.8 kg/m<sup>2</sup> [15.8-20.5], with 67.6% in the normal range, 20.7% overweight, and 11.7% obese. Only 24.6% had reached puberty. Medical history was absent in 84.8% of cases.

**Conclusion:** Young Tunisian tennis players are predominantly male, healthy, and within the normal BMI range, though a non-negligible proportion present overweight or obesity. These findings highlight the importance of integrating nutritional and lifestyle interventions into youth sport programs.

### Abstract EP 083: Development and implementation of a digital tool aimed at integrating the migrant dimension into tuberculosis control programs and strategies in the MENA region, using Tunisia as a model

Maatoug T<sup>1</sup>, Ghardallou M<sup>1</sup>, Ouahchi A<sup>1</sup>, Mtiraoui A<sup>1</sup>, Mansour W<sup>1</sup>, Requena Méndez A<sup>2</sup>, Zenner D<sup>3</sup>

1. Faculty Of Medicine Of Sousse, Tunisia;
2. Barcelona Institute for Global Health - Campus Clínic;
3. Queen Mary and Barts Health TB Centre, Blizard Institute, Queen Mary University London, London, United Kingdom

**Introduction:** Tuberculosis (TB) remains a major global public health concern. In the Middle East and North Africa (MENA) region, evolving migration patterns intersect with heterogeneous health system capacities. Tunisia, a country

with an intermediate TB burden and increasing migration flows as both a transit and destination context, faces limitations in the integration of migration-sensitive variables within routine surveillance systems.

**Methods:** An integrative mixed-Methods design informed by global health governance and social epidemiology perspectives was adopted. The study combined: (i) a systematic review and meta-analysis on TB burden and treatment outcomes among migrants in the MENA region; (ii) multi-site qualitative research grounded in interpretative and phenomenological approaches involving migrants, TB patients, healthcare professionals, and institutional stakeholders in Tunisia; (iii) an iterative process of migration-sensitive indicator development; and (iv) a participatory feasibility and acceptability assessment of the MHCP-t within implementation-oriented settings.

**Results:** Findings demonstrate that TB among migrants reflects complex configurations of structural vulnerability, including legal precarity, economic marginalization, linguistic exclusion, stigma, and discontinuities in care associated with mobility. Existing surveillance systems contribute to forms of epidemiological invisibility by insufficiently capturing migration-relevant variables. The co-development of migration-sensitive indicators enabled a shift toward a more relational and systems-aware surveillance framework.

**Conclusion:** Migration operates as a structural determinant of TB epidemiology and health system performance. Integrating migration-sensitive surveillance approaches is essential to enhance equity, continuity of care, and programmatic effectiveness. The MHCP-t represents a systems-level innovation with potential to inform more inclusive TB governance in Tunisia and across the MENA

### Abstract 084: Determinants of Scientific Publication among Medical Residents: A Central Tunisian University Hospitals' study

Douss N<sup>1</sup>, Ammar A<sup>1</sup>, Bekri A<sup>2</sup>, Omri N<sup>1</sup>, Mahjoub M<sup>1</sup>

1. Hospital Hygiene department, University Hospital of Farhat Hached, University of Sousse (Tunisia) -Faculty of medicine of Sousse, University of Sousse (Tunisia);
2. Faculty of medicine of Sousse, University of Sousse (Tunisia)

**Introduction:** Scientific research is essential for evidence-based medicine, yet medical residents' involvement remains limited due to multiple obstacles. In Tunisia, the lack of data on residents' research practices and the factors associated with scientific publication justifies investigating the determinants of research output among residents in the university hospitals of Sousse and Kairouan.

**Methods:** A cross-sectional study was conducted from March to May 2023 among medical residents working in four university hospitals in the Sousse and Kairouan regions. Data were collected using a 29-item self-administered questionnaire exploring sociodemographic characteristics, perceptions, attitudes, practices, and barriers related to scientific research. Descriptive analyses were followed by univariate and multivariate binary logistic regression to identify factors independently associated with scientific publication.

**Results:** A total of 363 residents participated, representing 47.8% of the target population. The mean age was 28.1 +/- 2.2 years, with a female predominance (65.8%). Medical specialties accounted for 71.9% of the sample. Multivariate analysis showed that scientific publication was significantly associated with the intention to pursue an academic hospital career (adjusted OR [aOR] = 4.26; 95% CI: 2.46-7.37), prior experience in scientific presentations (aOR = 3.18; 95% CI: 1.74-

5.82), residency level  $\geq 3$  years (aOR = 1.83; 95% CI: 1.06-3.16), and regular engagement in reading and critically appraising scientific articles (aOR = 1.45; 95% CI: 1.03-2.05).

**Conclusion:** Scientific publication among medical residents is influenced by academic, motivational, and research experience factors. These findings highlight the need for targeted institutional strategies to foster a sustainable research culture within Tunisian medical schools.

### Abstract EP 085: Development and implementation of a digital tool aimed at integrating the migrant dimension into tuberculosis control programs and strategies in the MENA region, using Tunisia as a model

Maatoug T<sup>1</sup>, Ghardallou M<sup>1</sup>, Ouahchi A<sup>1</sup>, Mtiraoui A<sup>1</sup>, Mansour W<sup>1</sup>, Requena Méndez A<sup>2</sup>, Zenner D<sup>3</sup>

1. Faculty of Medicine of Sousse;
2. Barcelona Institute for Global Health - Campus Clínic;
3. Queen Mary University London, London, United Kingdom

**Introduction:** Tuberculosis (TB) remains a major global public health concern, particularly in regions characterized by complex migration dynamics and persistent structural inequities. In the Middle East and North Africa (MENA) region, evolving migration patterns intersect with heterogeneous health system

**Methods:** An integrative mixed-Methods design informed by global health governance and social epidemiology perspectives was adopted. The study combined: (i) a systematic review and meta-analysis on TB burden and treatment outcomes among migrants in the MENA region; (ii) multi-site qualitative research grounded in interpretative and phenomenological approaches involving migrants, TB patients, healthcare professionals, and institutional stakeholders in Tunisia; (iii) an iterative process of

**Results:** Findings demonstrate that TB among migrants reflects complex configurations of structural vulnerability, including legal precarity, economic marginalization, linguistic exclusion, stigma, and discontinuities in care associated with mobility. Existing surveillance systems contribute to forms of epidemiological invisibility by insufficiently capturing migration-relevant variables. The co-development of migration-sensitive indicators enabled a shift toward a more relational and systems-aware surveillance framework.

**Conclusion:** Migration operates as a structural determinant of TB epidemiology and health system performance. Integrating migration-sensitive surveillance approaches is essential to enhance equity, continuity of care, and programmatic effectiveness. The MHCP-t represents a systems-level innovation with potential to inform more inclusive TB governance in Tunisia and across the MENA region.

### Abstract 086: Diabetic foot characteristics in diabetic patients At Ezzahra basic health center,2025

Guerbouj I, Antit H, Doghri S

University Tunis El Manar Faculty of médecine of Tunis

**Introduction:** Diabetic foot is a frequent and serious complication of diabetes, with potentially significant socio-economic impact due to the disability often caused and the high cost of treatment. This study aimed to describe the epidemiological, clinical, therapeutic and evolutionary characteristics of diabetic foot in diabetic patients who consulted at Ezzahra basic health center in 2025.

**Methods:** We conducted a cross-sectional, descriptive study from July 1, 2025, to October 30,2025, including all diabetic

patients who consulted at Ezzahra basic health center. We collected sociodemographic data, as well as medical and examination data.

**Results:** We included 102 patients. The mean age was 63 years, ranging from 22 to 95 years. The sex ratio was 0.56, with female predominance. At least one comorbidity was observed in 89 patients(87.3%). Hypertension was the most common comorbidity (63.7%) followed by dyslipidemia(37.3%). More than half (61.8%) had already developed a diabetic complications : retinopathy was present in 31 patients(30.4%), renal condition in 14(13.7%) patients, cardio vascular condition in 19(18.6%) patients, neurological condition in 5(0.05%) patients, and 25(24.5%) patients had previously experienced a foot lesion. Foot examination was completely normal in 17(13.7%) patients, a single abnormality was detected in 21(20.6%) patients, more than one abnormality was detected in 61(59.8%) patients. Only 58(56.9%) patients reported having received prior podiatric education.

**Conclusion:** Preventing diabetic foot problems relies on rigorous hygiene, regular medical checkups, and patient education. Taking preventive action helps preserve the quality of life for diabetic patients.

### Abstract EP 087: Dietary knowledge assessment and eating habits among the patients with type 2 diabetes

Bradai S<sup>1</sup>, Ben Ayed H<sup>1</sup>, Ketata N<sup>1</sup>, Ben Hmida M<sup>1</sup>, Hajkacem F<sup>2</sup>, Maamri H<sup>3</sup>, Yaich S<sup>3</sup>

1. preventive medicine and hygiene department Hédi Chaker Hospital Sfax;
2. Endocrinology-diabetology department Hedi Chaker university hospital;
3. Community health and epidemiology department

**Introduction:** In this perspective, this study sought to assess the dietary knowledge among type 2 diabetes patients and to identify its associated factors.

**Methods:** A cross-sectional study, from December 2024 to Mars 2025 in Sfax governorate, Southern Tunisia was conducted including a randomized sample of diabetes 2 patients, from the endocrinology-diabetology department and the primary health care centers. Data were collected using a self-prepared dietary knowledge (DK) questionnaire. The first addressed the sociodemographic information. A good knowledge was defined as a score of DK  $\geq 65/100$ .

**Results:** Among 285 patients included in the study, 193 patients were females (67.7%), giving a male to female ratio of 0.47. The median age value was 64with IQR [57-69.5] In our study, 102 patients (35.8%) had well-controlled diabetes, 31 patients received a high monthly income and 194 patients (68.1%) received a nutritional education. For eating habits, frequent daily intake of meat, poultry, and eggs was observed in 70.2% of participants (n = 127). The most common meal frequency was three meals per day (76.8%; n = 219), with regular meal times reported by 70.2% (n = 200). In the multivariate analysis, factors independently associated with good DK were having previously received nutritional education (Adjusted odds ratio (AOR) = 2.393; p = 0.003), eating fruits (AOR = 4.603; p < 0.001) and high monthly income (AOR=1.01, p=0.012).

**Conclusion:** These findings highlight the need for targeted, practical, and more effective nutrition education programs to improve patient knowledge.

### Abstract 088: Digital Learning Resources and Capacity Building in Occupational Medicine: Analysis of Learner Activity on an E-Learning Platform

Gaddour A<sup>1</sup>, Jemmeli I<sup>1</sup>, Chouchane A<sup>2</sup>, Kacem I<sup>2</sup>, Bouhoula M<sup>2</sup>, Touati Z<sup>2</sup>, Kalboussi H<sup>2</sup>, El Maalel O<sup>2</sup>, Maoua M<sup>3</sup>, Chatti S<sup>2</sup>

1. Faculty of medicine of Sousse, Occupational Medicine Department, Ibn El Jazzar University Hospital, Kairouan, Tunisia;
2. Faculty of medicine of Sousse, Occupational Medicine Department, Farhat Hached University Hospital, Sousse, Tunisia;
3. Faculty of medicine of Sousse, Occupational Medicine Department, Sahloul University Hospital, Sousse, Tunisia

**Introduction:** The shift toward technology-enhanced distance learning represents a major pedagogical transformation and an opportunity to strengthen capacity in medical education. Understanding how students use digital learning resources can help design more effective, competency-based programs for future healthcare professionals. To identify the types of digital learning materials used in an online medical course, assess their use patterns, and analyze their impact on capacity building in healthcare education

**Methods:** A descriptive study was conducted in February 2023 among fifth-year medical students enrolled in the optional module Occupational Diseases (MO.B06) during the 2022-2023 academic year. Data were collected from the Virtual University of Tunis (UVT) learning platform, including the types of digital materials provided and learner activity logs recorded on the platform.

**Results:** Five types of digital learning resources were identified. PDF documents (52.8%) and interactive e-learning modules (33.3%) were the most frequently used. The mean use rate was 24.8 +/- 11.0 per student, corresponding to an average engagement rate of 52.7%. A total of 1420 platform logins were recorded, with an average of 39.3 +/- 18.2 per participant. Among all digital learning materials, the PDF course presentations were significantly the most frequently accessed and used resources.

**Conclusion:** This study highlights the need to create more interactive and collaborative digital tools to improve learner engagement and skill development, despite the apparent predominance of static materials. Integrating interdisciplinary expertise in pedagogy and technology could open new avenues for research on the evolution of learners digital engagement and significantly strengthen capacity building in healthcare education

### Abstract 089: Discovery of a Novel MYH6 Variant with Low Penetrance in a Tunisian Family with Isolated Atrial Septal Defect (ASD)

Khelifi R<sup>1</sup>, Perez Riverol A<sup>2</sup>, Kooli R<sup>3</sup>, Neffati E<sup>4</sup>, Mougou-Zerelli S<sup>1</sup>, Rump A<sup>2</sup>, Audin Martinez E<sup>2</sup>

1. Higher institute of Biotechnology Monastir, Laboratory of Cytogenetics, Molecular Genetics and Human Reproductive Biology, University Hospital Farhat Hached Sousse, Tunisia;
2. University Institute for Medical Genetics Carl Von Ossietzky University Oldenburg, Germany;
3. Laboratory of Cytogenetics, Molecular Genetics and Human Reproductive Biology, University Hospital Farhat Hached Sousse, Tunisia;
4. Cardiology Department University Hospital Sahloul Sousse, Tunisia

Familial cases of isolated atrial septal defect (ASD) provide valuable insight into the genetic architecture of congenital heart disease (CHD). The MYH6 and MYH7 genes, located on chromosome 14q11.2, encode the alpha- and beta-heavy chains

of cardiac myosin, essential for cardiac muscle contraction and structural integrity. Mutations in these genes have been linked to a range of cardiac malformations, including ASD, hypertrophic cardiomyopathy (HCM), and dilated cardiomyopathy (DCM). In this study, we investigated a consanguineous Tunisian family comprising eight members affected by isolated ASD. Whole genome sequencing (WGS) was performed on seven family members, including both parents, three affected children, and two unaffected individuals, using the Illumina NovaSeq 6000 platform (30x coverage). Two heterozygous missense variants were identified: MYH6:c.1576G>A (p.Glu526Lys) and MYH7:c.5779A>T (p.Ile1927Phe), both classified as variants of uncertain significance (VUS, class 3-4). Segregation analysis revealed that both variants were inherited in cis on the same maternal allele in all affected siblings, while the mother carrying both variants remained asymptomatic. This finding suggests incomplete penetrance or the presence of modifier factors influencing phenotypic variability. To further elucidate the inheritance model and potential modifier loci, homozygosity mapping is ongoing to identify shared regions among affected members. In **Conclusion**, these two novel MYH6 and MYH7 variants expand the mutational spectrum associated with familial ASD and highlight the complex inheritance and variable penetrance of myosin-related CHD. Integrating WGS and homozygosity mapping offers a promising approach for understanding the genetic mechanisms underlying ASD in consanguineous populations.

### Abstract 090: Transforming data collection and surveillance around maternal and neonatal health among migrants in the MENA region "Tunisia experiences "

Ouahchi A<sup>1</sup>, Maatoug T<sup>1</sup>, Assarag B<sup>2</sup>, Mtiraoui A<sup>1</sup>, Mansour W<sup>1</sup>, Zenner D<sup>3</sup>, Evangelidou S<sup>4</sup>

1. Faculty of Medicine of Sousse, University of Sousse, Tunisia
2. National School of Public Health, Ministry of Health Rabat, Morocco
3. Queen Mary and Barts Health TB Centre, Blizard Institute, Queen Mary University London, London, United Kingdom
4. Barcelona Institute for Global Health (ISGlobal, University of Barcelona), Spain

**Introduction:** Migrant women in MENA Region encounter substantial barriers in accessing healthcare services; yet empirical evidence in this context remains scarce. In Tunisia, although existing policy frameworks endorse healthcare rights for migrants, undocumented women continue to experience significant barriers

**Methods:** The methodology used included the following steps: 1- Conducting a systematic review on maternal and neonatal health and access to health services in the MENA region. 2- Conducting three qualitative studies. - The first study primarily involved migrant population (men, women, and religious leaders) and representatives of civil society.

**Results:** The systematic review revealed inadequate prenatal care, delayed access to healthcare, and maternal and neonatal complications. The first qualitative study findings revealed barriers affecting migrant maternal health care. The second study identified the three delays to care. The third qualitative study, revealed three intersectional themes: (1) Structural vulnerabilities (2) Gender-based violence and reproductive coercion, and (3) Psychosocial consequences. The Results from the systematic review and qualitative studies were integrated through cross-analysis and thematic triangulation.

**Conclusion:** Ultimately, the aim is to generate useful data to help researchers, healthcare professionals and policymakers better identify inequalities in access to care and contribute to more inclusive health policies in the MENA region.

### Abstract 091: Effect of Aikido Practice on Aggressiveness in Adolescents

Layouni S<sup>1</sup>, Touati T<sup>2</sup>, Loubiri I<sup>1</sup>, Grichi G<sup>3</sup>, Tayaa S<sup>3</sup>, Gaaloul B<sup>4</sup>, Jemni S<sup>1</sup>

1. Physical Medicine and Rehabilitation Department, Sahloul Hospital, Faculty of Medicine of Sousse, University of Sousse, Sousse 4002, Tunisia;
2. Department of Family Medicine, Faculty of Medicine of Sousse, University of Sousse, Sousse 4000, Tunisia;
3. Institut Supérieur Privé des Sciences de la Santé Sousse;
4. Physical Medicine and Rehabilitation Department, Sahloul Hospital

**Introduction:** Aggressiveness has increasingly permeated everyday life and has become a major social concern. It can manifest in psychological, physical, or verbal forms and is generally intended to offend, disturb, or intimidate others.

**Methods:** A comparative cross-sectional study was conducted among adolescents aged 12 to 18 years, with the aim of assessing the effect of Aikido practice on aggressiveness and anger control. Participants were divided into two groups: an "Aikido" group practicing Aikido and a control group practicing neither martial arts nor any other competitive sport.

**Results:** The mean age was 14.4 +/- 2.05 years in the Aikido group and 15.4 +/- 2.09 years in the control group. The mean duration of Aikido practice was 32 +/- 29 months. The overall aggressiveness score was higher in the control group compared with the Aikido group, although the difference was not statistically significant ( $p = 0.49$ ). On the verbal aggression subscale, boys in the control group were significantly more aggressive than boys practicing Aikido ( $p = 0.04$ ).

**Conclusion:** The findings of this study cannot be generalized due to methodological limitations. Further confirmation through longitudinal studies with larger sample sizes, longer follow-up periods, and the use of additional assessment tools capable of more accurately capturing behavioral changes is warranted.

### Abstract EP 092: Effect of an intelligent voice assistant on CPAP treatment compliance in patients with obstructive sleep apnea (OSA): a research protocol

Kacem A<sup>1</sup>, Kharrat I<sup>1</sup>, Ben Bedira B<sup>2</sup>, Omrane A<sup>2</sup>, Benlimem I<sup>2</sup>, Bouafia S<sup>2</sup>, Knaz A<sup>2</sup>, Aissa S<sup>2</sup>, Benjazia R<sup>1</sup>, Abdelghani A<sup>2</sup>

1. Pneumology Department, University Hospital Ibn Jazzar, Kairouan, Tunisia Faculty of Medicine Ibn E Jazzar, Sousse, Tunisia;
2. Pneumology Department, University Hospital Farhat Hached, Sousse, Tunisia , Faculty of Medicine Ibn El Jazzar, Sousse, Tunisia

**Introduction:** Continuous Positive Airway Pressure (CPAP) is the standard treatment, yet its effectiveness depends on adherence, which remains inadequate in many patients. To assess whether an AI-powered intelligent voice assistant can enhance CPAP adherence among patients with severe OSAS

**Methods:** This single-blind, bicentric randomized controlled trial will include 100 adults with newly diagnosed severe OSAS (AHI  $\geq 30$ /h). Participants will be randomized (1:1) into an intervention group (CPAP + AI voice assistant) or a control group (CPAP alone). Follow-up duration is one month. Application Features: The voice assistant is installed on the patient's smartphone and operates in Tunisian Arabic. It enables 24/7 voice interaction through a speech recognition engine, an LLM generating appropriate explanations, and text-to-speech output. Patients can ask questions about CPAP use, side effects, mask issues, or troubleshooting. Interactions are recorded anonymously and categorized for analysis. Study Procedure: After inclusion and baseline assessment, patients are randomized and receive standard CPAP setup. The intervention group additionally

receives a demonstration of the voice assistant. Throughout the month, CPAP data (hours/night, residual AHI, side effects) are monitored. At one month, adherence is downloaded from the CPAP device, and participants complete satisfaction (VAS) and sleep quality (PSQI) questionnaires.

**Results:** Primary outcome: mean CPAP use (hours/night). Secondary outcomes: satisfaction, sleep quality, CPAP-related side effects, and thematic analysis of voice interactions.

**Conclusion:** This study will provide evidence on whether real-time, voice-based AI assistance can address common barriers to CPAP adherence by offering continuous education, reassurance, and personalized support.

### Abstract 093: Effect of music therapy on the prevention of post-traumatic stress symptoms among motor vehicle accidents survivors: literature review?

Bouasker I, Borgati A

Faculty of Medicine of Sousse, University of Sousse

**Introduction:** Traumatic events can have substantial psychological consequences, including post-traumatic stress disorder (PTSD). Although PTSD has been extensively studied across various populations and traumatic contexts, evidence regarding car accident survivors remains limited. Music therapy, a non-pharmacological intervention increasingly used in mental health care, has shown promising benefits in reducing psychological distress. This literature review aimed to synthesize current evidence on the effectiveness of music therapy in preventing or reducing PTSD symptoms among trauma-exposed individuals. Literature searches were conducted in Frontiers, Scopus, Cochrane, and PubMed.

**Results:** Car accident survivors appear to be at increased risk of developing PTSD compared with individuals exposed to other traumatic events. Receptive music therapy, based on guided music listening, mental imagery, and relaxation techniques, seeks to regulate emotions, reduce anxiety, and promote physiological calm. Identified interventions included individual receptive music therapy, Guided Imagery and Music (GIM), and combined online programs. Recent studies reported significant reductions in PTSD-related intrusions, anxiety, and hyperarousal following receptive or mixed music therapy interventions. Studies involving traumatized adults and emergency department patients also demonstrated improvements in emotional well-being, relaxation, and trauma tolerance. Furthermore, randomized controlled trials showed that receptive music therapy was not inferior to conventional verbal therapies in reducing PTSD symptoms.

**Conclusion:** Music therapy appears to be a promising intervention for the prevention and management of PTSD symptoms. Further research is needed to assess its effectiveness specifically among car accident survivors.

### Abstract 094: Effect of probiotics on bowel function, nutritional status and quality of life in chronic spinal cord injury : A randomized controlled double-blind study

Layouni S<sup>1</sup>, Tiss B<sup>1</sup>, Ghali H<sup>2</sup>, Haj Mbarek T<sup>3</sup>, Kalboussi N<sup>4</sup>, Amdoun MA<sup>4</sup>, Loubiri I<sup>1</sup>, Ben Cheikh A<sup>2</sup>, Zaouali M<sup>5</sup>, Jemni S<sup>1</sup>

1. Physical Medicine and Rehabilitation, Sahloul University Hospital, Faculty of Medicine of Sousse, University of Sousse, Sousse 4002, Tunisia;
2. Department of Preventive and Community Medicine, Sahloul University Hospital, Faculty of Medicine of Sousse, University of Sousse, Sousse 4002, Tunisia;
3. Physical Medicine and Rehabilitation, Sahloul University Hospital;

4. Pharmacy department, Sahloul Hospital, Sousse, Tunisia; 5. Research Laboratory, Exercise Physiology and Physiopathology: From Integrated to Molecular "Biology, Medicine and Health", LR19ES09, 4002, Sousse, Tunisia

**Introduction:** Gut dysbiosis is a common complication following spinal cord injury (SCI) with broad pathological effects. This study investigates the impact of probiotics, known for regulating gut dysbiosis, on bowel function, nutritional status and secondarily on quality of life

**Methods:** A randomized, double-blind, placebo-controlled trial was conducted on 50 participants (1:1 allocation). Adults with chronic SCI (>6 months) were included, while those with recent antibiotic use, digestive diseases, or pregnancy were excluded. Participants received two daily capsules for two months: the intervention group took *Lactobacillus fermentum* and *Lactobacillus delbrueckii* (10 x 10<sup>9</sup> CFU), while controls received starch.

**Results:** One patient was excluded. NBD scores improved significantly in both groups ( $p < 0.001$ ), but without between-group differences. BSS improved only in the intervention group ( $p < 0.05$ ), yet no significant intergroup difference was found. Transferrin levels increased significantly with probiotics ( $p = 0.05$ ), while other nutritional markers showed no major changes. LDL-c decreased significantly in the intervention group ( $p = 0.05$ ), with a significant between-group difference ( $p = 0.011$ ). A placebo effect was observed in mental outcomes. Other variables didn't show any major variation.

**Conclusion:** Two months probiotic supplementation did not significantly improve bowel function or overall nutrition but lowered LDL-c levels. A notable placebo effect was observed. These findings highlight probiotics' potential in SCI management, warranting further research with larger sample sizes

#### Abstract 095: Effectiveness of a Training Intervention about Healthcare environment management on the Practical Skills of Healthcare Professionals in a Teaching Hospital of Southern Tunisia

Bradai S<sup>1</sup>, Ben Ayed H<sup>1</sup>, Ben Hmida M<sup>1</sup>, ketata N<sup>1</sup>, Slimani A<sup>1</sup>, Jebli M<sup>1</sup>, Hosni H<sup>1</sup>, Maamri H<sup>2</sup>, Yaich S<sup>1</sup>

1. Preventive medicine and hygiene department Hedi Chaker Hospital Sfax;
2. Community and epidemiology department Hedi Chaker Hospital Sfax

**Introduction:** Effective waste management, environmental cleaning, and proper organization of the nursing care trolley are essential components of infection prevention and control. This quasi-experimental study aimed to assess the impact of a training program on practical skills of healthcare

**Methods:** This study was conducted in a Teaching Hospital in Southern Tunisia between January and June 2025. A series of systematic audits were conducted weekly in each department before and after the training intervention. During each audit, trained observers used standardized checklists to assess two domains: nursing care trolley organization and environment cleaning.

**Results:** Overall, 496 practice audits were conducted in all the departments. Nursing care trolley organisation's was compliant in 234 audits (47.2%) and cleanliness was compliant in 364 cases (73.4%). For The environment cleaning, Cleanliness was compliant in 41.9% of audits (N=208), cleaning Technique and equipment availability was compliant in 237 audits (47.8%). In medical, surgical, departments, the overall conformity score was 72.7/100 +/-22 for care trolley score and 64.3/100 +/-15.13 for environment cleaning. The total and practice score

of healthcare professionals increased significantly after training with a mean changes of 57.35 +/- 16.62 to 71.34 +/- 9.2 for environment cleaning score ( $p < 0.001$ )

**Conclusion:** The training intervention led to a marked improvement in hygiene practices. These Results demonstrate the effectiveness of educating healthcare teams to promote a safer care environment.

#### Abstract 096: Effectiveness of a Train-the-Trainer Pedagogical Workshop in Improving Educators' Knowledge and Competency in Objective Structured Clinical Examination Implementation

Ben Amor A<sup>1</sup>, Farhat H<sup>2</sup>, Ounallah A<sup>3</sup>, Bouallegue O<sup>4</sup>, Ben Dhieb M<sup>5</sup>

1. Higher School of Health Sciences and Techniques, University of Sousse, Sousse, Tunisia;
2. Major Incident Preparedness and Resilience & Ambulance Service Group, Hamad Medical Corporation, Doha, Qatar;
3. Department of Dermatology, Academic Hospital "Farhat Hached", Sousse, Tunisia;
4. Microbiology Laboratory, Hygiene and Critical Care Departments, Academic Hospital of Sahloul, Sousse, Tunisia;
5. University of Sousse, Faculty of Medicine of Sousse, Department of Forensic Medicine, EPS Farhat HACHED of Sousse, Tunisia

The Objective Structured Clinical Examination (OSCE) was implemented at the School of Health Sciences and Technologies of Sousse, Tunisia, without prior educator training, raising concerns regarding assessment quality and stakeholder satisfaction. This study evaluated the effectiveness of a pedagogical training workshop in improving educators' knowledge of OSCE principles and their satisfaction with the intervention. **Methods:** This cross-sectional interventional study involved 20 educators (66.66% participation rate) who completed pre- and post-training knowledge assessments comprising 24 multiple-choice questions covering OSCE domains, competencies, reliability measures, and station design. Participants completed a 24-item satisfaction survey post-training. Descriptive analyses, Shewhart control charts, boxplots, Spearman correlations, and multivariate linear regression were employed. **Results:** Mean knowledge scores increased significantly from 10.27/20 (SD = 3.81) to 17.27/20 (SD = 2.12), with pass rates improving from 53.33% to 100%. Perfect post-training scores were achieved in the foundational domains (assessed OSCE domains, competencies, and validity recommendations). Satisfaction analysis revealed strong associations between organisational aspects, pedagogical quality, and general appreciation with global satisfaction ( $r = 0.70-0.94$ ,  $p < 0.01$ ). Multivariate regression identified three key predictive factors: learning atmosphere ( $\beta = 0.250$ ), room comfort ( $\beta = 0.208$ ), and trainer approachability ( $\beta = 0.379$ ). **Conclusion:** Train-the-trainer workshops represent effective continuing medical education strategies for healthcare professionals. The intervention successfully addressed educators' knowledge deficits while maintaining high satisfaction across demographic groups, thereby institutional implementation in diverse healthcare education contexts. Keywords: OSCE, train-the-trainer, continuing medical education, educator competency, knowledge improvement, pedagogical intervention

#### Abstract EP 097: Effectiveness of E-Education for Teaching Evidence-Based Practice to Healthcare Students: A Literature Review

Ben Khelifa G

**Introduction:** Evidence-Based Practice (EBP) is a cornerstone of high-quality healthcare and an essential competency for healthcare professionals. Integrating EBP into health professions education is therefore critical to ensure that future practitioners are able to make informed clinical decisions based

**Methods:** A literature review was conducted to identify studies evaluating digital or online educational interventions designed to teach EBP to healthcare students. Searches were performed in major electronic databases including PubMed, Cinahl, and Google Scholar using combinations of keywords such as "e-learning," "e-education," "Evidence-Based Practice," and "healthcare students." Eligible studies included those focusing on undergraduate or graduate students in health-related disciplines and reporting

**Results:** The reviewed studies indicate a growing body of research exploring digital approaches to EBP education. Educational strategies included digital problem-based learning via online communities, asynchronous web courses hosted on university platforms, interactive e-modules and clinically integrated e-learning, and web-based experiential or self-directed training tools. Overall, findings suggest that e-education reliably improves EBP knowledge and methodological skills among healthcare students, particularly in areas such as literature searching, critical appraisal, and interpretation of research evidence.

**Conclusion:** E-education appears to be a promising strategy for strengthening core EBP competencies among healthcare students, particularly in improving knowledge and analytical skills. While effects on attitudes are generally positive but variable, evidence supporting sustained changes in practice remains limited. Further investigation is required to identify which digital educational strategies are most effective in promoting sustained application of EBP in clinical settings.

#### Abstract EP 098: Effects of Sleep Deprivation on the Physical and Mental Health of Anesthesiology and Critical Care Residents

Chrigui R, Khedher H, Ben Hamada H, Naouar N, Guellim S, Kissi K, Melayeh S, Skhiri Z, Landolsi O, Naija W

Anesthesia and Intensive Care Department, Sahloul University Hospital, Faculty of Medicine of Sousse, University of Sousse

**Introduction:** Sleep deprivation among anesthesia and intensive care residents is a major issue, with significant repercussions on their physical and mental health, as well as on patient safety. Extended on-call duties, irregular work schedules, and emotional strain contribute to

**Methods:** Our study is a cross-sectional, descriptive, and multicentric study conducted among 56 anesthesia and intensive care residents from the University Hospitals of Sousse and Monastir. We used three assessment tools: the Epworth Sleepiness Scale (ESS), the Pichot Fatigue Scale, and a Psychomotor Vigilance Task (PVT) to evaluate sleepiness, fatigue, and cognitive performance, respectively.

**Results:** The Results showed that 82.1% of residents exhibited excessive daytime sleepiness (ESS score > 10) and 60.7% presented excessive fatigue (Pichot score >= 22). A significant association was observed between sleepiness, fatigue, seniority (third- to fifth-year residents), and age. On the cognitive level, vigilance tests revealed a significant increase in mean reaction time (401.21 ms) as well as a rise in omission and commission errors.

**Conclusion:** This study highlights the negative impact of sleep

deprivation on the health and performance of anesthesia and intensive care residents, manifested by reduced vigilance and slower cognitive performance. The findings emphasize the need to optimize work schedules, introduce strategic rest breaks, and raise awareness among professionals about sleep hygiene. Continuous training and organizational measures could improve residents' quality of life and enhance patient safety.

#### Abstract 099: Enhancing Cardiopulmonary Resuscitation Performance: A Comparison between Feedback-Enabled and Conventional Manikin Training in Adults

Houichi I<sup>1</sup>, Ben Khedher H<sup>1</sup>, Chrigui R<sup>1</sup>, Ajmi M<sup>1</sup>, Youzbechi A<sup>1</sup>, Dahmane S<sup>2</sup>, Srihi S<sup>1</sup>, Msallem M<sup>1</sup>, Kahloul M<sup>1</sup>, Naija W<sup>1</sup>

1. Department of Anesthesiology and Critical Care, Sahloul University Hospital, Sousse;

2. Higher School of Health Sciences and Technologies of Monastir , Tunisia

**Introduction:** Cardiopulmonary arrest is a critical emergency in which the quality of cardiopulmonary resuscitation (CPR) is a key determinant of survival. Simulation-based training with feedback-enabled manikins (QCPR) offers real-time guidance and may enhance skill acquisition compared with conventional manikins.

**Methods:** We conducted a randomized, comparative interventional study in April 2025 at the Simulation Center of the Faculty of Medicine of Sousse. Second- and third-year anesthesia students who had previously received BLS training (ERC 2021) were randomized to either a conventional CPR group or a QCPR group. Each student underwent a 10-minute practice session in separate rooms.

**Results:** Thirty-nine students were included (QCPR: n=20; conventional: n=19). Baseline demographic characteristics (age, sex, study year) were comparable between groups. Students trained with QCPR manikins demonstrated superior performance in multiple parameters: mean compression depth (53.4 +/- 4.3 mm vs. 45.6 +/- 7.1 mm, p<0.001), adherence to the 30:2 cycle (84.6% vs. 15.4%, p=0.002), ventilation volume (361 ml vs. 0 ml, p<0.001), and effective ventilation rate (90% vs. 10%, p=0.008).

**Conclusion:** Training with feedback-enabled QCPR manikins significantly improves CPR performance among anesthesia students, leading to better compression depth, ventilation, adherence to guidelines, and overall resuscitation quality. Real-time feedback facilitates error correction and accelerates skill acquisition, supporting the integration of QCPR manikins into medical education as an effective tool for resuscitation training.

#### Abstract EP 100: Enhancing Oral Handover Skills in the Operating Room through Medical Simulation

Youzbechi A<sup>1</sup>, Ben Hamada H<sup>1</sup>, Guellim S<sup>1</sup>, Belaid M<sup>1</sup>, Skhiri Z<sup>1</sup>, Gargouri F<sup>1</sup>, Hajji R<sup>1</sup>, Dahmane S<sup>2</sup>, Kahloul M<sup>1</sup>, Naija W<sup>1</sup>

1. Department of Anesthesia and Intensive Care Sahloul Teaching Hospital, Sousse, Tunisia;

2. Higher School of Health Sciences and Technologies of Monastir

**Introduction:** Communication errors among healthcare professionals were responsible for 65% of sentinel events in 2006. In recent years, efforts to improve handovers between healthcare providers have been supported by the standardization of communication tools such as SBAR (Situation, Background, Assessment, Recommendation) and by targeted communication training. This study aimed to demonstrate the contribution of medical simulation to the learning of oral

handover practices in the operating room.

**Methods:** This pre-experimental before-and-after study was conducted among third-year anesthesia and intensive care students. It consisted of four phases: a pre-test, a training session (simulation through role-playing), an immediate post-test, and a delayed post-test conducted one month later. Data were collected using a self-administered questionnaire completed three times and analyzed with SPSS version 21.0. The McNemar test was used for statistical analysis.

**Results:** The participation rate was 86.66% (26 students). The majority of participants (88.6%) considered oral handover to be essential for patient safety. None had received prior formal training in handover communication. After the simulation-based training, knowledge significantly improved regarding the timing and location of handovers, the quality of information transmitted, and the use of the SAED tool. All participants reported that the sender's fatigue negatively affected the quality of handovers. Moreover, 92.3% identified forgetfulness and the use of inappropriate language as factors that degraded the quality of transmitted information.

**Conclusion:** These Results confirm that medical simulation promotes the acquisition and reinforcement of knowledge, enhances self-confidence, and provides a safe environment for reflection and learning without risk to the patient.

### Abstract 101: Enhancing the Training of Future Urologists in Tunisia: Challenges and Perspectives

Lahouar R, Naouar S, Ben Khalifa B, Gazzah W, Salem B

Urology department, Ibn Jazzar Hospital, Kairouan, University of Sousse, Faculty of Medicine of Sousse, Tunisia

**Introduction:** High quality training during residency is essential to prepare competent future urologists. However, the continuous evaluation of educational resources and training environments remains insufficiently developed in many low- and middle-income countries such as Tunisia; where the perceptions and

**Methods:** In 2015, we distributed by e-mail an anonymous questionnaire to all urology residents in Tunisia. The survey explored demographic characteristics, available theoretical and practical training resources, perceived usefulness of educational tools, satisfaction with the residency program, and residents' priorities for improving training.

**Results:** Among 33 eligible residents, 22 completed the questionnaire, yielding a response rate of 66.6%. The main educational resources used during residency were supervision by senior medical staff, courses organized by the national college of urology, reading scientific articles, and daily exposure to operative activity. Despite these resources, 59.1% of respondents considered their training unsatisfactory. The main reported limitations were insufficient theoretical teaching, inadequate practical training, or a combination of both. Residents emphasized the need for more structured and standardized learning objectives, regular skills assessment, improved access to educational resources, and better integration of modern pedagogical tools.

**Conclusion:** Most Tunisian urology residents perceived their training as insufficient, particularly regarding structured theoretical teaching and practical skill acquisition. Strengthening residency programs through clearly defined learning objectives, simulation-based training, e-learning platforms, mentorship, and international exchange opportunities may improve satisfaction and better prepare future urologists for independent practice.

### Abstract 102: Epidemiological Profile of Glomerulonephritis Associated with ANCA-Associated Vasculitis: A Single-Center Descriptive Study

Chniti N, Dahmane R, Emah S, Mrabet S, Boukadida R, Thabet N, Mahfoudh O, Guedri Y, Azzabi A, Zellama D

Sahloul Hospital, Nephrology department, Faculty of medicine of sousse, university of sousse

**Introduction:** Renal involvement in anti-neutrophil cytoplasmic antibody (ANCA)-associated vasculitis (AAV) is common and often severe, most frequently manifesting as extracapillary glomerulonephritis. The aim of this study was to describe the epidemiological, clinical, laboratory, histopathological, and therapeutic characteristics of this condition.

**Methods:** We conducted a retrospective descriptive study including 33 patients hospitalized for AAV with biopsy-proven renal involvement over a 16-year period in the nephrology department of Sahloul University Hospital.

**Results:** The mean age at diagnosis was 53.1 +/- 15.2 years, with a female predominance (female-to-male ratio = 1.5). Exposure to wood smoke was reported in 75% of cases. Thirty-two patients presented with stage 3 acute kidney injury according to KDIGO criteria, with a mean serum creatinine of 763 µmol/L and a mean estimated glomerular filtration rate (eGFR) of 8.5 mL/min/1.73 m<sup>2</sup>. The mean proteinuria was 2.4 g/24 h, and hematuria was reported in 90% of cases. The main clinical presentations were rapidly progressive glomerulonephritis (39.4%), pulmonary-renal syndrome (33.3%), nephrotic syndrome (12.1%), nephritic syndrome (12.1%), and chronic glomerulonephritis (3%). Histopathological analysis revealed crescents in all biopsies, predominantly fibrocellular (54.5%), interstitial inflammatory infiltrates (81.8%), and granulomatous lesions (15.2%). ANCA positivity was observed in 84.8% of patients (63.6% p-ANCA, 21.2% c-ANCA). A diagnosis of ANCA-negative AAV-related glomerulonephritis was established in five patients. Treatment consisted mainly of corticosteroids combined with cyclophosphamide, and plasma exchange was performed in 54.5% of cases.

**Conclusion:** This study highlights the severity of renal involvement in ANCA-associated vasculitis. Renal biopsy remains an essential diagnostic tool, crucial for assessing disease severity and guiding therapeutic management.

### Abstract 103: Epidemiological surveillance of West Nile Virus infections in Human in Tunisia, 2025

Gara E<sup>1</sup>, Letaief H<sup>2</sup>, Hannachi H<sup>3</sup>, Trabelsi A<sup>1</sup>, Karray H<sup>1</sup>, Triki H<sup>1</sup>, Mastouri M<sup>1</sup>, Hannachi N<sup>1</sup>, Ben Alaya N<sup>2</sup>

1. National Observatory of Emerging and Reemerging Diseases, Tunis, Tunisia;
2. 1National Observatory of Emerging and Reemerging Diseases, Tunis, Tunisia 2University of Tunis El Manar, Faculty of medicine of Tunis, Tunisia;
3. Pasteur Institute of Tunis

**Introduction:** West Nile virus (WNV) infection is a neurovirulent mosquito-borne disease transmitted mainly by *Culex* mosquitoes. It was first recognized in Tunisia in 1997. An integrated surveillance system for WNV was implemented in 2010 by the National Observatory for

**Methods:** We conducted a descriptive analysis of national surveillance data on human WNV infections in Tunisia. The system is based on passive notification of all suspected cases to the ONMNE, serological testing of paired serum samples, and

virological testing by RT-qPCR performed in the five regional and reference laboratories, based on the national protocol and case definition.

**Results:** In 2025, as of ISO Week 43, a total of 371 suspected human cases of WNV infection were reported to the ONMNE, with a peak of 39 notifications between ISO Weeks 36 and 38. A total of 8 cases were confirmed (including 1 death), and 38 were classified as probable (including 1 death). Among confirmed cases, the median age was 40 years (range: 9-73), and the sex ratio (F/M) was 1. Overall, 5 patients presented with meningoencephalitis, 2 with meningitis, and 1 with other neurological manifestations. Confirmed cases were reported from Monastir (2), Zaghouan (2), Ben Arous (1), Kairouan (1), and Béja (1).

**Conclusion:** WNV infection remains endemo-epidemic in Tunisia, with an earlier onset in 2025 and different geographic expansion. Strengthened collaboration under a One Health approach enables early detection of cases and timely public health interventions.

#### Abstract EP 104: Epidemiological, Clinical, and Evolutionary Particularities of Acute Abdominal Pain in Hypertensive Patients

Hosni D<sup>1</sup>, Tlemcen M<sup>1</sup>, Kchaou I<sup>1</sup>, Othmani S<sup>1</sup>, Hedhli H<sup>1</sup>, Jouini S<sup>2</sup>

1. Emergency department, Charles Nicolle Hospital, Tunis, Tunisia;
2. Emergency department, Charles Nicolle, Tunis, Tunisia

**Introduction:** The clinical presentation in hypertensive patients is atypical and multifactorial (vascular, drug-induced, or related to target-organ involvement), which requires rigorous evaluation to rapidly identify potentially serious causes. To determine the epidemiological, clinical, and evolutionary particularities of acute abdominal pain in hypertensive patients admitted to the emergency department.

**Methods:** We conducted a retrospective descriptive comparative study over a 19-month period in the emergency department. Inclusion criteria: age >18 years, patients admitted for non-traumatic acute abdominal pain. We divided our population into two groups based on the presence or absence of hypertension: a hypertensive group (HTA+) versus a non-hypertensive group (HTA?).

**Results:** We included 245 patients divided into two groups: HTA+ (n=114) and HTA? (n=131). Median age = 60 years, sex ratio = 1.11. Significant associations were found with a history of atrial fibrillation (p=0.049); stroke (p=0.008); elevated systolic blood pressure (p=0.002); use of central antihypertensives (p=0.001); clopidogrel (p=0.016); insulin (p=0.003); furosemide (p=0.001); oral antidiabetic drugs (p=0.001); abdominal bloating (p=0.049); epigastric pain (p=0.034); metrorrhagia (p=0.034); elevated potassium (p=0.034); elevated urea (p=0.049); hyperleukocytosis (p=0.005); and acute intestinal obstruction (p=0.03).

**Conclusion:** Abdominal pain in hypertensive patients is often atypical and insidious, making careful evaluation essential to prevent complications in this population.

#### Abstract 105: Epidemiological, Clinical, and Evolutionary Particularities of NSTEMI in Dyslipidemic Patients

Hosni D, Tlemcen M, Kchaou I, Othmani S, Hedhli H, Jouini S

Emergency department, Charles Nicolle Hospital, Tunis, Tunisia

**Introduction:** Dyslipidemia is a major cardiovascular risk factor for ischemic coronary disease. In these patients, NSTEMI may

occur earlier and be associated with greater severity, highlighting the importance of studying this population to ensure optimal and timely management. To describe the clinical and prognostic characteristics of NSTEMI in dyslipidemic patients admitted to the emergency department.

**Methods:** We conducted a retrospective descriptive comparative study over a 19-month period in the emergency department. Patients were divided into two groups: Dyslipidemic+ versus Non-dyslipidemic. NSTEMI diagnosis was based on electrocardiographic and biological criteria. We included patients with known dyslipidemia and those with biological evidence of hypercholesterolemia or hypertriglyceridemia.

**Results:** We included 201 patients divided into two groups: Dyslipidemic+ (n=65) and Dyslipidemic? (n=136). Median age = 62 years; sex ratio = 1.75. Significant associations were found with higher TIMI score (p=0.012), use of diuretics (p=0.031), nitrates (p=0.003), insulin therapy (p=0.002), levothyroxine (p=0.003), and presence of a left anterior hemiblock (p=0.045).

**Conclusion:** In dyslipidemic patients, NSTEMI is associated with a high cardiovascular risk and faster progression of atherosclerosis, underscoring the importance of early and targeted management.

#### Abstract 106: Epidemiology and Antimicrobial Challenges of Enterococcus Bacteremia in Farhat Hached University Hospital

Maatouk Y, Mallek N, Rabhi M, Azouzi F, Zaibi O, Miladi H, Kahloul A, Marzouk M, Hannachi N

Farhat Hached University Hospital, Faculty of medicine of Sousse

**Introduction:** Enterococcus species have become notable bloodstream pathogens, especially in hospitalized and immunocompromised patients. Their intrinsic multidrug resistance and the emergence of vancomycin-resistant strains (VRE) complicate treatment and infection control.

**Methods:** A retrospective study was conducted on all Enterococcus isolates from blood cultures collected between 2021 and 2024. Microbial identification was carried out using biochemical Methods. Antimicrobial susceptibility testing was performed according to CASFM/EUCAST guidelines.

**Results:** A total of 58 cases of Enterococcus bacteremia were recorded. Neonatology accounted for the largest proportion with 43.1%, followed by Pediatrics and Intensive Care Units, each representing 12.1%. A slight female predominance was observed, with females representing 58.6% of the cohort. Microbiological identification revealed that *E. faecalis* was the predominant pathogen, responsible for 63.8% of bacteremia cases, followed by *E. faecium* at 25.9%. Among 37 *E. faecalis* isolates, high-level gentamicin resistance was observed in 33% of the isolates. Linezolid, Vancomycin, and tigecycline preserved full activity against all isolates. Among 15 *E. faecium* isolates, high resistance was observed to ampicillin (100%), and levofloxacin (87.5%). Pristinamycin also showed limited activity, as 40% of the isolates were resistant. Furthermore, seven vancomycin-resistant Enterococcus isolates were identified, all displaying high-level resistance to vancomycin. All isolates remained fully susceptible to linezolid highlighting their preserved therapeutic efficacy.

**Conclusion:** Interpretation of blood culture Results can sometimes be challenging, as distinguishing true bacteremia from contamination requires careful clinical and microbiological correlation. Continuous surveillance and strict infection control measures are essential to prevent the spread of resistant strains and to guide appropriate empiric therapy.

### Abstract EP 107 : A Synergy for a Healthy Environment-Genetic Mapping,Predictive Modeling, and Eco-Friendly Solutions against Antimicrobial Resistance in Aquatic Ecosystems

Jendoubi I<sup>1,2</sup>, Azaiez S<sup>1,2</sup>, Metibaa M<sup>1,2</sup>, El kantaoui M<sup>1,2</sup>, Bouhlel NE<sup>1,2</sup>, Ayari S<sup>1,2</sup>, Bouaziz Y<sup>1,2</sup>, Benfredj M<sup>1,2</sup>, Mansour W<sup>1,2</sup>

1. Faculty of Medicine of Sousse, University of Sousse, Sousse, Tunisia
2. Metabolic Biophysics Research Laboratory and Applied Pharmacology, LR12ES02, Faculty of Medicine Ibn El Jazzar of Sousse, Tunisia.

Antibiotic resistance (AMR) is a major global public health threat, driven by the increasing spread of multidrug-resistant bacteria (MDRB) and antibiotic resistance genes (ARGs) in the environment. Aquatic environments serve as critical reservoirs for these ARGs, facilitating their transfer between microbial communities and their dissemination to humans and ecosystems. This study aims to map the diversity, abundance, and spatial distribution of ARGs across various water compartments, including wastewater, surface water, and agricultural water. To achieve this, we will employ targeted qPCR and next-generation metagenomic sequencing (NGS) approaches to identify and quantify the ARGs present. In a second phase, predictive models based on machine learning will be developed and trained to determine the environmental, physicochemical, and microbiological factors that influence the presence and dissemination of ARGs. Finally, the project will assess the effectiveness of innovative ecological solutions, such as phytoremediation, in reducing ARG and MDRB loads through in situ or simulated experiments. The **Results** will enable the development of a conceptual model for environmental monitoring and intervention, designed to be integrated into public policies for managing environmental AMR risks.

### Abstract EP 108: Ethics and Experience: Lessons from a COVID-19 Compulsory Confinement Centre

Belkhiria MT, Abdallah S, Lammouchi C

Regional Health Directorate of Mahdia

The COVID-19 pandemic has revealed real ethical questions, revealing the limits of knowledge, the limits of our health system, the limits of our society. Questioning these limits and therefore these ethical questions can be interesting to advance our health system as well as our society in the face of health scourges such as COVID-19. We will address in our poster presentation the ethical principles applicable to the COVID-19 pandemic from the Guidelines for the management of ethical issues during outbreaks of infectious diseases developed by the WHO, in particular, the principle of justice, the principle of beneficence, the principle of utility, respect for people, the principle of freedom, reciprocity and solidarity. We will review the experience of the compulsory confinement center of Mahdia which sheltered returnees from abroad during the Covid-19 pandemic, emphasizing the rules of ethical orders having been applied in this center during the period. of confinement. We will discuss, in this context, the ethical issues in the COVID-19 pandemic, emphasizing the allocation of limited resources, the restriction of freedom of movement, the ethical issues relating to medical interventions, the use of non-medical interventions proven, the challenges of research in the context of a pandemic and especially the rights and obligations of front-line workers who constitute the cornerstone of the pandemic.

### Abstract 109: Evaluation of a Simulation-Based Training Cycle During Medical School Integration Days

Kacem I, Aloui A, Mgarrech I, Ajmi M, Kahloul M, Fathallah N, Chouchene I, Najja W, Ben Dhiab M

Faculty of Medicine of Sousse, University of Sousse, Tunisia

**Introduction:** Medical education relies on a balance between two inseparable components: theoretical instruction and practical training. However, during the early years of medical school, access to clinical practice remains limited. In this context, integration days offer a unique opportunity to introduce active and safe learning experiences. To assess the perceptions of first- and second-year medical students at the Faculty of Medicine of Sousse regarding a simulation-based training program integrated into the integration days.

**Methods:** A descriptive cross-sectional study was conducted in September 2025 at the Faculty of Medicine of Sousse. A total of 138 students participated in a one-day simulation program consisting of eight workshops (urinary catheterization, digital rectal examination, suturing, blood pressure measurement, cardiopulmonary arrest management, cardiopulmonary auscultation, intramuscular injection, and hand hygiene). Students were asked to complete a Likert-scale (5 levels) evaluation questionnaire addressing four criteria: quality of the **Introduction**, scenarios, debriefing, and instructors.

**Results:** Eighty-one students completed the questionnaire. Overall satisfaction was very high in 85% of cases, and 90% reported improved practical skills. Seventy-nine percent rated their learning environment as "Excellent." Debriefing was considered constructive and pedagogical in 50% of responses, and scenarios were perceived as realistic by 59% of students. The blood pressure measurement and cardiopulmonary auscultation workshops were particularly appreciated.

**Conclusion:** These findings support the systematic integration of simulation into all integration-day activities and potentially throughout the entire medical curriculum. Nevertheless, continued evaluation is needed to refine these training programs and assess their long-term impact.

### Abstract EP 110: Evaluation of Healthcare Professionals' Knowledge on Melanoma

Maaref M, Ghariani Fetoui N, Ben Rejeb M, Mkhini H, Mokni S, Aounallah A, Ghariani N, Denguezli M

Department of dermatology, Farhat Hached University Hospital, Faculty of Medicine of Sousse, University of Sousse

**Introduction:** Melanoma is the most aggressive form of skin cancer, with a steadily rising incidence worldwide. Throughout patient care, healthcare professionals (HPs) play a pivotal role, from prevention to diagnosis.

**Methods:** A 16-item questionnaire was distributed to 100 HPs. It assessed knowledge of risk factors, diagnosis, and management of melanoma.

**Results:** Among the 100 respondents, 53 were physicians and 47 were paramedical staff. Regarding risk factors, 42% of respondents identified family history as a relevant factor. Sun exposure was recognized as a risk factor in 73% of cases, compared to 30% for fair phototype and 25% for atypical mole syndrome. Knowledge of the ABCDE method was significantly higher among physicians (61.7%) than paramedics (15.1%;  $p < 0.001$ ). When shown a malignant pigmented lesion, 69% of respondents suspected melanoma, with a significant difference

between physicians and paramedics (66.7% vs. 33.3%;  $p < 0.001$ ). However, only 31% considered melanoma in the case of an achromic lesion (71% vs. 29%;  $p = 0.001$ ). Overall, 58% of HPs recognized its potential for locoregional and distant metastasis (77.6% vs. 22.4%;  $p < 0.001$ ). Regarding sun protection, physicians mentioned a greater number of measures, with at least three cited with significantly higher frequency ( $p < 0.001$ ). All participants used at least one protection method, with no significant difference. Self-tanners were incorrectly considered photoprotective by 15% of participants, mostly from the paramedical group (86.7%;  $p = 0.005$ ).

**Conclusion:** Certain misconceptions, such as the false photoprotective role of self-tanners, remain common. Application of the ABCDE rule is also limited, especially among paramedical staff, justifying the need for continuous training programs.

### Abstract EP 111: Evaluation of Parental Satisfaction with Pediatric Congenital Heart Surgery Care at Sahloul University Hospital: A Cross-Sectional Study

Chrigui R, Skhiri Z, Ben Hamada H, Naouar N, Gharbi R, Kissi K, Chouchene C, Ajmi M, Meleyah S, Naija W

Anesthesia and Intensive Care, Sahloul University Hospital, Sousse Tunisia

**Introduction:** The satisfaction of the accompanying persons of hospitalized patients is one of the reliable tracers of the quality of the provided care and the performance of health services.

**Methods:** This is a transversal descriptive study, monocentric that took place in the Cardiovascular and Thoracic surgery department of the University Hospital Sahloul of Sousse over a period of 6 months from December 2022 to April 2023 having including 30 parents of children who were operated for treatment of congenital heart disease. A validated French quiz was given to them after the operation.

**Results:** In our study, questionnaires were completed by mothers in 93.3% of cases. Two mothers had never attended school, and only one child had a sibling operated on for heart failure. Respect for privacy was the most appreciated aspect, with a satisfaction rate of 93.3%. The lowest satisfaction rates concerned medical management (46.7%), caregiver availability (43.3%), information provided by doctors and surgeons (30%), and identification of nursing staff (36.7%). Overall satisfaction, recommendation, and loyalty rates were 66.7%, 80%, and 83.3%, respectively, yielding an overall positive responsiveness rate of 76.76%. Parents' overall opinion of the hospital stay was significantly associated with explanations about health status, staff behavior, assistance provided, pain and discomfort management, quality of care, room conditions, discharge information, and discharge organization ( $p < 0.05$ ).

**Conclusion:** This study, unprecedented in this department, noted deficiencies attributable not only to the hospital structure itself but also to the agents practicing there. The **Results** obtained in our study on patient satisfaction after their hospitalization in Cardiology are encouraging.

### Abstract 112: Evaluation of the Contribution of Role-Play Simulation in Interprofessional Communication Training for Anesthesia and Intensive Care Students

Houichi I<sup>1</sup>, Rjiba G<sup>1</sup>, Chouchene C<sup>1</sup>, Melayah S<sup>1</sup>, Abida Y<sup>1</sup>, Msallem M<sup>1</sup>, Srihi S<sup>1</sup>, Dahmane S<sup>2</sup>, Chaouch A<sup>1</sup>, Naija W<sup>1</sup>

1. Department of Anesthesia and Intensive Care Sahloul Teaching Hospital, Sousse, Tunisia;

2. Higher School of Health Sciences and Technologies of Monastir

**Introduction:** Effective communication among healthcare professionals is essential for patient safety. The SBAR tool (Situation, Background, Assessment, Recommendation) standardizes information exchange and helps reduce communication-related errors. Role-play simulation provides a practical approach for developing interprofessional communication skills. This study aimed to evaluate the impact of a SBAR-based role-play simulation session on communication skills among third-year anesthesia and intensive care students.

**Methods:** A pre-experimental before-and-after study was conducted in April 2024 at the CESIME simulation center, Faculty of Medicine Ibn Jazzar, Sousse. Third-year anesthesia and intensive care students from UPSAT participated. Communication skills were assessed before and after the simulation using the SBAR-LA grid. Participant satisfaction was evaluated through a questionnaire validated by the French National Authority for Health (HAS).

**Results:** Among 72 enrolled students, 41 participated. Mean SBAR-LA scores improved significantly from  $8 \pm 2$  before training to  $15.06 \pm 2.36$  after training ( $p = 0.02$ ). Significant improvements were observed in all SBAR domains, including situation presentation, background reporting, assessment accuracy, and recommendation formulation. Before training, 97.9% of students had never used the SBAR tool and reported limited confidence in conducting structured handovers. Following the simulation, 95% felt more confident in delivering interprofessional handovers, while 90% reported improved ability to identify and prioritize critical information. Participants also noted that managing time pressure and answering unexpected questions enhanced their learning. Satisfaction was high, with 97% rating the training as useful, 93% appreciating the educational materials, and 90% expressing satisfaction with the organization and facilitation.

**Conclusion:** SBAR-based role-play simulation significantly improved communication skills and confidence among students. Repeated practical and theoretical training is recommended to strengthen communication competencies in healthcare education.

### Abstract 113: Excess mortality during the COVID-19 pandemic in Tunisia, 2020-2022

Gara E<sup>1</sup>, Dhaouadi S<sup>2</sup>, Mhadhbi R<sup>1</sup>, Hechaichi A<sup>2</sup>, Letaief H<sup>2</sup>, Safer M<sup>2</sup>, Zouayti A<sup>1</sup>, Derouiche S<sup>1</sup>, Bouabid L<sup>1</sup>, Bouafif ép Ben Alaya N<sup>2</sup>

1. National Observatory of Emerging and Reemerging Diseases, Tunis, Tunisia;

2. University of Tunis El Manar, Faculty of medicine of Tunis, Tunisia

**Introduction:** This study aimed to assess excess mortality during the entire pandemic period (2020–2022) and examine its evolution according to dominant SARS-CoV-2 variants.

**Methods:** A national time-series study was conducted using mortality data for the Tunisian population from January 2020 to December 2022. Reported all-cause deaths (2015–2022) and population data were obtained from the National Institute of Statistics, while COVID-19 mortality data came from the National Observatory for New and Emerging Diseases. Expected deaths were estimated using the Resolve to Save Lives excess mortality calculator based on 2015–2019 mortality averages. Excess mortality was calculated as the difference between reported and expected deaths. Excess mortality rates, COVID-19 crude death rates (CDR), and P-scores were analyzed according to dominant SARS-CoV-2 circulation periods: wild type (2020), Alpha (January–June 2021), Delta (July–December 2021), and Omicron (2022).

**Results:** The average annual deaths during 2015–2019 were 68,533, compared with an expected 67,729 deaths annually for 2020–2022. Reported deaths reached 75,365 in 2020, 100,460 in 2021, and 76,956 in 2022, corresponding to 7,636, 32,731, and 9,227 excess deaths, respectively. Excess mortality remained limited during early 2020 but increased markedly thereafter. The highest excess mortality occurred during the Delta wave in July 2021 (75.7/100,000 inhabitants; P-score +167.4%), coinciding with the highest COVID-19 CDR (46/100,000). During the Omicron period, excess mortality declined but remained above expected levels, peaking in February 2022 (21.7/100,000; P-score +38.9%).

**Conclusion:** Monitoring excess mortality is essential for understanding the pandemic's true burden and improving preparedness for future health crises.

#### Abstract 114: Exploring Digital Dependency: A Study on Nomophobia in Tunisian Medical Students

Bannour R<sup>1</sup>, Guedri K<sup>2</sup>, Sehli J<sup>1</sup>, Amara A<sup>1</sup>, Mellouli M<sup>1</sup>, Ghardallou M<sup>1</sup>, Zedini C<sup>1</sup>

1. University of Sousse, Faculty of Medicine of Sousse, Department of Family and Community Medicine Research Laboratory "LR12ES03", Sousse, Tunisia;
2. University of Sousse, Faculty of Medicine of Sousse, Department of Family and Community Medicine, Sousse, Tunisia

**Introduction:** Nomophobia, the fear of being without a mobile phone, is increasingly prevalent among students due to rising digital dependence. Medical students may be especially vulnerable given their high academic stress and constant smartphone use. This study investigates the prevalence and severity of nomophobia among medical students in Sousse, Tunisia. To assess the prevalence and pattern of nomophobia among medical students at the Faculty of Medicine of Sousse using the Nomophobia Questionnaire (NMP-Q), and to explore its association with sociodemographic characteristics.

**Methods:** A descriptive cross-sectional study was carried out among 83 medical students. The NMP-Q was used to evaluate nomophobia levels across four domains. Total scores were classified into mild (20-59), moderate (60-99), and severe (100-140). Gender, age, and academic year were also recorded.

**Results:** The mean NMP-Q score was 92.4 +/- 18.2. Nomophobia was moderate in 45.8% of students and severe in 38.6%; only 15.6% had mild levels. The highest mean subscale score was for "Inability to communicate" (24.5 +/- 6.3), followed by "Not being able to access information" (22.7 +/- 5.4). Female students had higher overall scores than males ( $p = 0.03$ ), but no significant association was found between nomophobia and academic year ( $p = 0.47$ ) or age group.

**Conclusion:** Nomophobia is a significant concern among Tunisian medical students, with over 80% experiencing moderate to severe symptoms. Digital well-being strategies, including awareness campaigns and mobile use regulation, should be integrated into student support programs to mitigate its impact on academic life and mental health.

#### Abstract 115: Exploring the extent of Medication Adherence and its predictive factors Among Type II Diabetes Mellitus patients in Southern Tunisia

Bradai S<sup>1</sup>, Ben Ayed H<sup>1</sup>, Ketata N<sup>1</sup>, Ben Hmida M<sup>1</sup>, Hadjkacem F<sup>2</sup>, Maamri H<sup>3</sup>, Yaich S<sup>3</sup>

1. Preventive medicine and hygiene department Hedi Chaker University hospital Sfax;
2. Endocrinology-diabetology department Hédi Chaker hospital Sfax;
3. Community and epidemiology department Hédi Chaker hospital Sfax

**Introduction:** Type 2 diabetes mellitus (T2DM) is a major global health problem. Medication adherence is essential for glycemic control and prevention of complications. This study aimed to assess medication adherence and identify its predictive factors among patients with T2DM in Southern Tunisia.

**Methods:** A cross-sectional study was conducted in March 2025 in Sfax Governorate, Southern Tunisia. Patients with T2DM attending the endocrinology-diabetology department and primary healthcare centers were recruited. Data were collected using a self-administered questionnaire based on the validated 8-item Morisky Medication Adherence Scale (MMAS-8).

**Results:** A total of 285 patients were included, of whom 67.7% were women and 56.5% were younger than 65 years. Most participants were married (74.4%), had no formal occupation (81.4%), and presented comorbidities such as hypertension (64.9%) and dyslipidemia (52.6%). More than half (52.3%) had diabetes for at least nine years, while only 35.8% achieved good glycemic control. Oral antidiabetic drugs (OADs) were prescribed to 95.8% of patients, and diabetic complications were reported in 54.9%. Obesity affected 58.2% of participants, 68.1% had received nutritional education, and 45.3% practiced self-monitoring of blood glucose. Overall, 78.9% showed poor medication adherence. Multivariate analysis identified treatment with OADs (AOR=9.6;  $p=0.001$ ), age <65 years (AOR=1.4;  $p=0.009$ ), obesity (AOR=2.1;  $p=0.012$ ), lack of self-monitoring of blood glucose (AOR=2.63;  $p=0.005$ ), and low physical activity (AOR=2.5;  $p=0.006$ ) as independent predictors of poor adherence.

**Conclusion:** Poor medication adherence was highly prevalent among patients with T2DM in Southern Tunisia. Interventions should focus on patient education, self-monitoring, healthy lifestyles, and support for high-risk groups.

#### Abstract 116: Extra lobar pulmonary sequestrations in children: Interest of the thoracoscopic approach

Issaoui A, Belhaj Mansour M, Tounsi MK, Zouari M, Ben Dhaou M, Mhiri R

Department of pediatric surgery, Hedi Chaker Hospital, Sfax, Tunisia

**Introduction:** Extralobar pulmonary sequestration (EPS) is a rare congenital bronchopulmonary foregut malformation. Surgical resection is required for definitive diagnosis and treatment. This study aimed to describe the role of thoracoscopic minimally invasive surgery (MIS) in the management of pediatric EPS.

**Methods:** We report two cases of EPS managed thoracoscopically in the Pediatric Surgery Department of Hedi Chaker Hospital, Sfax.

**Results:** The patients were two boys aged 4 and 7 years. Antenatal diagnosis was established in one case and confirmed postnatally. One child presented with recurrent bronchopneumonia, whereas the other underwent surgery because of persistent lesions and parental concern. Thoracic computed tomography revealed a right lower lobe multiloculated mass suggestive of sequestration in one case and possible congenital pulmonary airway malformation in the other. CT angiography confirmed EPS with systemic arterial supply from the descending thoracic aorta in one patient. Thoracoscopy identified a well-demarcated extralobar sequestration connected to the right lower lobe and supplied by a single systemic feeding vessel. The anomalous vessel was ligated, and complete thoracoscopic resection was performed while preserving normal lung tissue.

No intraoperative or postoperative complications occurred. Both patients were discharged on postoperative day three. Histopathological examination confirmed the diagnosis of pulmonary sequestration. During a two-year follow-up, no complications or recurrences were observed.

**Conclusion:** Thoracoscopic MIS is a safe and effective approach for pediatric EPS, providing definitive diagnosis and treatment with minimal morbidity, rapid recovery, and preservation of healthy lung tissue. It should be considered a preferred option for managing congenital lung malformations.

### Abstract 117: Factors Affecting Tunisian's caregivers compliance to Home Exercise Programs Designed for Their Children with Cerebral Palsy

Layouni S<sup>1</sup>, Knani M<sup>2</sup>, Loubiri I<sup>1</sup>, Grichi G<sup>3</sup>, Tayaa S<sup>1</sup>, Gaaloul B<sup>4</sup>, Jemni S<sup>1</sup>

1. Physical Medicine and Rehabilitation Department, Sahloul Hospital, Faculty of Medicine of Sousse, University of Sousse, Sousse 4002, Tunisia;
2. Department of Family Medicine, Faculty of Medicine of Sousse, University of Sousse, Sousse 4000, Tunisia;
3. Private Higher Institute of Health Sciences, Sousse;
4. Physical Medicine and Rehabilitation Department, Sahloul Hospital

**Introduction:** Cerebral palsy (CP) is the leading cause of motor disability in children, often accompanied by cognitive and behavioral impairments that reduce quality of life. In Tunisia, early intervention is challenged by limited resources and fragmented care. Home Exercise Programs, implemented by caregivers, are crucial for improving function, but their success largely depends on caregiver adherence—a poorly studied factor in this context. This study aimed to assess the adherence levels of Tunisian caregivers to HEPs for children with CP and to identify the key determinants influencing this adherence.

**Methods:** A cross-sectional study was conducted from September to December 2024 at the Department of Physical Medicine and Rehabilitation, Sahloul University Hospital. Ninetythree caregivers were interviewed by phone using a structured questionnaire combining sociodemographic, clinical, and contextual data. Four validated tools were included: IMI, SF12, HADS, and MCSI. Adherence was measured using a composite score based on frequency, consistency, and quality of exercise implementation.

**Results:** Only 26.88% of caregivers showed good adherence. Factors associated with better adherence included higher education, moderate SES, school attendance, fewer child impairments, stronger family support, lower anxiety, integration into routines, clear professional communication, and digital tool use.

**Conclusion:** Caregiver adherence to HEPs is shaped by interconnected clinical, psychological, and contextual factors. Supporting caregiver well-being, adapting exercises to daily routines, enhancing professional communication, and promoting low-tech digital tools are key to improving adherence in low-resource settings like Tunisia

### Abstract 118: Factors associated with job satisfaction among healthcare professionals at Farhat Hached University Hospital of Sousse

Ben Slama A, Ben Saad OK, Bannour R, Sahli J, Amara A, Gharadallou M, Mallouli M

Department of Family and Community Medicine, Research laboratory LR12ES03, University of Sousse, faculty of medicine of Sousse

**Introduction:** This study aimed to identify factors associated

with job satisfaction among Tunisian healthcare professionals.

**Methods:** An analytical cross-sectional study was conducted in 2024 among 470 healthcare professionals (nurses, senior technicians, and nurse assistants) at Farhat Hached University Hospital. Data were collected using a self-administered questionnaire that included the Professional Life Satisfaction Scale (ESVP) and the French version of the Copenhagen Psychosocial Questionnaire (COPSOQ III).

**Results:** Participants had a mean age of  $43.8 \pm 8.3$  years, and 84.7% were women. Overall job satisfaction was low, with a mean ESVP score of  $14.6 \pm 5.4$ ; 81.9% of respondents were classified as dissatisfied. Univariate analysis revealed significant associations between job satisfaction and educational level, perceived wage equity, satisfaction with work schedules, and equipment availability ( $p < 0.05$ ). Several psychosocial factors were also significantly related to job satisfaction, including workload, predictability at work, organizational justice, recognition, supervisor support, sense of community, influence at work, and opportunities for professional development ( $p < 0.05$ ). Multivariate analysis identified five independent predictors of job dissatisfaction: unsatisfactory work schedules ( $OR = 0.27$ ;  $p < 0.001$ ), insufficient equipment availability ( $OR = 0.17$ ;  $p < 0.001$ ), high workload ( $OR = 1.02$ ;  $p = 0.006$ ), low predictability at work ( $OR = 0.98$ ;  $p = 0.007$ ), and a weak sense of community among colleagues ( $OR = 0.98$ ;  $p = 0.001$ ).

**Conclusion:** Job satisfaction among Tunisian healthcare professionals was low and mainly influenced by organizational and psychosocial factors. Improving working conditions and strengthening workplace support systems may enhance staff well-being, job satisfaction, and quality of care.

### Abstract 119: Factors Associated with Poor Glycemic Control Among Tunisian Patients with Type 2 Diabetes

Berrajah S

Faculty of Medicine of Tunis

**Introduction:** Type 2 diabetes mellitus is a chronic disease that represents a major public health concern. Optimal glycemic control is essential to prevent vascular complications. However, despite the availability of multiple effective therapies, a substantial proportion of patients remain

**Methods:** A cross-sectional study was conducted among 51 patients with type 2 diabetes followed at an intermediate health center in Tunis. Demographic, clinical, and biological data were collected. Glycemic control was assessed using HbA1c levels. Bivariate analysis was performed to identify factors associated with poor glycemic control.

**Results:** A total of 51 patients were included, with a mean age of  $57.18 \pm 6.2$  years and a sex ratio (M/F) of 0.42. The mean duration of diabetes was 8.88 years, and the mean HbA1c level was  $7.49 \pm 1.2\%$ . Among comorbidities, hypertension was the most common (58.8%), followed by dyslipidemia (37.3%). Insulin therapy was used in 17.6% of patients. Patients with poor glycemic control had a longer duration of diabetes ( $p = 0.03$ ).

**Conclusion:** In our study, 70.6% of patients had poor glycemic control. The factors significantly associated were obesity, longer duration of diabetes, insulin therapy, and poor treatment adherence. These findings are consistent with previous reports indicating that obesity and long disease duration increase insulin resistance. Insulin therapy often reflects advanced disease, whereas poor adherence emphasizes the importance of therapeutic education.

### Abstract 120: Factors associated with sexual harassment among health sciences students in Sousse, Tunisia. A cross-sectional study

Salhi F<sup>1</sup>, Ben Saad OK<sup>2</sup>, Bannour R<sup>2</sup>, Sahli J<sup>2</sup>, Amara A<sup>2</sup>, Ghardallou M<sup>2</sup>, Mallouli M<sup>2</sup>

1. University of Sousse, faculty of medicine of Sousse, Department of Family and Community Medicine;
2. University of Sousse, faculty of medicine of Sousse, Department of Family and Community Medicine, Research laboratory LR12ES03, Tunisia

**Introduction:** Sexual harassment is a common issue among university students, and health sciences students in Tunisia are no exception. Such a phenomenon can have negative impact on their well-being and professional development, and it has multiple factors that should

**Methods:** We conducted a cross-sectional study among students enrolled in several public health and private institutions for studies in health sciences in Sousse, Tunisia, in 2023. We developed and distributed a self-administered questionnaire, pertaining to three main sections (characteristics of students, sexual harassment details and assessment of psychological distress).

**Results:** The study population consisted of 500 students, predominantly female (63.8%) with a mean age of 21.71 +/- 1.49 years. The majority of students (80.6%) reported experiencing sexual harassment with their colleagues. Regarding associated factors, Female students reported significantly higher prevalence of sexual harassment. This was also significantly more prevalent among students who were married or in a relationship. Students who worked nightshifts reported significantly higher rates of harassment compared to those who did not (91.3% vs. 81.6%),  $p=0.010$ . Smoking and substance abuse were also associated with higher rates of sexual harassment, with no statistical significance.

**Conclusion:** Our **Results** demonstrated that female gender, being in a relationship, working nightshifts, as well as smoking and substance abuse were associated with higher rates of sexual harassment. Addressing these factors such as limiting gender discrimination, improving nightshift working conditions, in addition to providing the necessary support for these students, is paramount for enhancing their well-being and mental health status as well as their career prospects.

### Abstract 121: Forensic Management of Migrants' Bodies in Tunisia: Structural Challenges and Ethical Issues

Anane S, Kouada R, Meddeb O, Graiet R, Makni C, Ben Dhiab M

Department of Forensic Medicine, Farhat Hached University Hospital, Sousse

**Introduction:** The management of migrants' bodies raises complex issues at the intersection of health, legal, and humanitarian concerns. This study aims to analyze the current organization of postmortem management of migrants in Tunisia and to identify the main obstacles encountered in practice.

**Methods:** A literature review was conducted on the forensic management of migrants' bodies in Tunisia. Results and Discussion for forensic management generally follows a structured chain: recovery, transport, autopsy, identification, and burial. In practice, however, each stage faces multiple challenges. At the organizational level, forensic services often operate under emergency conditions and without a coordinated national plan. The lack of standardized procedures, inadequate equipment,

and chronic morgue overcrowding make management both difficult and, at times, undignified. Logistically, the shortage of refrigerated facilities and delays in administrative procedures for burial lead to body accumulation, while limited human resources compromise the quality of postmortem examinations and DNA sampling. Ethically, these conditions challenge the dignity of the deceased, the right to identity, and the State's responsibility toward deaths occurring in the context of migration. Identification thus becomes a humanitarian duty, symbolizing the recognition of every individual beyond borders. This complex reality calls for an interdisciplinary approach combining forensic medicine, humanitarian action, law, and diplomacy.

**Conclusion:** In the face of this ongoing situation, developing a national protocol for the management of migrants' bodies, strengthening forensic capacities, and establishing a centralized identification database in collaboration with international partners are essential steps to preserve human dignity in death as in life.

### Abstract 122: French-Tunisian Translation and Psychometric Validation of the Evidence-Based Practice Competence Questionnaire Among Tunisian Health Sciences Students

Hamdouni A<sup>1</sup>, Chartrand J<sup>2</sup>, Ghardallou M<sup>1</sup>, Chelbi S<sup>1</sup>

1. Faculty of Medicine of Sousse;
2. School of Nursing, Faculty of Health Sciences, University of Ottawa

**Introduction:** Developing evidence-based practice (EBP) competency among nursing students requires valid and culturally adapted instruments capable of assessing attitudes, knowledge, and skills. Prior to this study, such tools were not available in Tunisia.

**Methods:** A cross-sectional methodological validation study was conducted using a convenience sample of undergraduate health sciences students from three public nursing institutions in Tunisia. Content validity was assessed through expert review. The translated questionnaire was administered online to evaluate its psychometric properties. Construct validity was examined using exploratory and confirmatory factor analyses, while reliability was assessed using Cronbach's alpha, corrected item-total correlations, and

**Results:** A total of 330 students completed the questionnaire, yielding a response rate of 68.5%. Content validity was excellent (I-CVI: 0.90-1.00; S-CVI/Ave = 0.988; overall  $\kappa = 0.95$ ). Exploratory factor analysis supported a three-factor structure-Attitudes, Skills, and Knowledge-explaining 54.04% of the total variance. Factor loadings ranged from 0.56 to 0.84, with communalities between 0.41 and 0.76. Confirmatory factor analysis indicated an acceptable model fit ( $\chi^2/df = 2.12$ , CFI = 0.932, TLI = 0.925, RMSEA = 0.058, SRMR = 0.064).

**Conclusion:** The EBP-COQ-Fr-Tn demonstrated strong reliability and validity while maintaining the original three-factor structure of the questionnaire. It represents a culturally adapted and psychometrically robust instrument for assessing self-perceived EBP competencies among undergraduate health sciences students in Tunisia and may support its application in educational practice and curriculum development.

### Abstract 123: From anatomy to surgery: Landmarks in laparoscopic adrenalectomy

Lahouar R, Naoouar S, Ben Khalifa B, Gazzah W, Salem B

Urology department, Ibn Jazzar Hospital, Kairouan, University of Sousse,

faculty of medicine of Sousse, Tunisia

**Introduction:** Transperitoneal laparoscopic adrenalectomy is considered a complex surgical procedure due to the delicate anatomical relationships of the adrenal gland, which make surgical access challenging. This complexity highlights the need for a sufficient learning curve to master the procedure.

**Methods:** We conducted a critical descriptive analysis of recorded video footage of transperitoneal laparoscopic adrenalectomies performed in the Department of Urology at Ibn Jazzar Hospital in Kairouan over a 10-year period, from 2015 to 2024. During this period, we collected data on 46 cases of laparoscopic adrenalectomy performed via the transperitoneal approach, including 22 on the left side and 23 on the right

**Results:** In this anatomical study, we delivered a comprehensive, step-by-step analysis of the transperitoneal laparoscopic adrenalectomy technique for both sides. Key anatomical landmarks were identified and emphasized at each stage of the operation. This detailed anatomical review also enabled us to highlight and discuss critical intraoperative anatomical and technical nuances that contribute to optimizing both the safety and efficacy of the transperitoneal laparoscopic adrenalectomy procedure.

**Conclusion:** A thorough understanding of adrenal anatomical landmarks is fundamental to the success of transperitoneal laparoscopic adrenalectomy. This anatomical knowledge provides the cornerstone for a safe, reproducible, and effective minimally invasive procedure. Our study represents an important step toward future research focused on surgical outcomes and the advancement of training in this operative technique.

#### Abstract 124: Functional and Sexual Outcomes Following Surgical Repair of Penile Fracture

Lahouar R, Naouar S, Ben Khalifa B, Gazzah W, Salem B

Urology department, Ibn Jazzar Hospital, Kairouan, University of Sousse, faculty of medicine of Sousse, Tunisia

**Introduction:** Rupture of the corpora cavernosa, or penile fracture, is a urological emergency that most commonly occurs in young adults. Although it is a rare condition, it remains relatively frequent in Maghreb countries.

**Methods:** This was a retrospective, descriptive, analytical, single-center, cross-sectional study including 28 patients hospitalized and surgically treated for penile fracture in the Urology Department of the Aghlabides Unit at Ibn Jazzar Hospital in Kairouan over a 10-year period. To assess the impact of surgical treatment on sexual function, two validated questionnaires were used: the Arabic version of the IIEF-15 (International Index of Erectile

**Results:** The mean age of patients at the time of surgery was 42.6 +/- 13.1 years (range: 19-67 years). All 28 patients were sexually active, and 24 (85.7%) were married with living partners. The most common presenting symptom was penile hematoma (100%), localized in most cases (n = 20; 71.4%). The most frequent mechanism of injury was a "false step" during intercourse (n = 13; 46.4%).

**Conclusion:** The outcomes of surgical management of penile fractures in our experience are encouraging despite the limited sample size. A more comprehensive prognostic evaluation would require a larger cohort. Sexual education remains a valuable tool in preventing such injuries, particularly among young adults.

#### Abstract 125: Genomic Deletions as Catalysts of Tumorigenesis: Evidence from Cyto genomics and Multi-Omics Integration

Zidani N<sup>1</sup>, Benzarti A<sup>2</sup>, Atigue A<sup>2</sup>, Dimassi S<sup>2</sup>, Chouchene K<sup>6</sup>, Kamoun M<sup>2</sup>, El Aye b Y<sup>2</sup>, Hmida D<sup>2</sup>, Gafsi W<sup>2</sup>, Guedria A<sup>7</sup>, Sfar MT<sup>3</sup>, Saad A<sup>2</sup>, Mougou-Zerelli S<sup>2,3,4</sup>

1. Higher Institute of Biotechnology of Monastir, University of Monastir, Tunisia 2
2. Laboratory of Cytogenetics, Molecular Genetics and Human Reproductive Biology, Farhat Hached University Hospital, Sousse, Tunisia
3. Faculty of Medicine of Sousse, University of Sousse, Tunisia d. Joint Research Unit in Genetics, Faculty of Medicine of Sousse, University of Sousse, Tunisia
4. Department of Pediatrics, Tahar Sfar Hospital, Mahdia, Tunisia
5. Department of Neonatology, Farhat Hached Hospital, Sousse, Tunisia
6. Fattouma Bourguiba University Hospital, Monastir,
7. High Institut of Biotechnology of Monastir

Chromosomal deletions are recurrent genomic alterations that may contribute to carcinogenesis by disrupting the integrity of tumor suppressor genes or oncogenes. While somatic deletions are well characterized in cancers, germline deletions-despite their potential major clinical implications-remain insufficiently explored. This study investigates how the size, location, and gene content of constitutional deletions influence individual susceptibility to tumor development. We analyzed 17 Tunisian patients carrying constitutional chromosomal deletions previously characterized using high-resolution array-CGH and FISH. To refine biological interpretation, several bioinformatics tools were integrated: COSMIC for cancer gene annotation, g:Profiler for functional enrichment, STRING for protein-interaction networks, and TCGA multi-omics datasets to contextualize expression and mutation patterns. Our findings show that these deletions encompass numerous cancer-related genes and converge on major oncogenic processes, including cell-cycle regulation, DNA repair, and apoptosis (FDR < 0.05).

#### Abstract 126: A Mobile-Based Medication Reminder System for Improving Adherence in Elderly Patients with Chronic Diseases

Sioud A

Fcaulty of Medicine of Sousse

It's an application that reminds who downloaded it of their medications , specifically the elderly, I am making it ( on development stage it won't take much to have a functional version ) . You download the application.you add a pill on the app and it sets an alarm based on the frequency of taking the pill , before or after food. The color of the pill , other notices etc . Will be with the alarm , and if you don't take it the alarm will be missed and in the history of your medication will be recorded that you didn't take it . So we have a calendar that the doctor can see and even input how many time the patient needs to take it also based on how many pills you have . And when you miss the pill if it's important a notification will be sent to a family member that take care of the elderly that he missed a pill (you need to put the number or id of the family memeber ) also open for more update and development but till now it's made simple for old people to have it easy.

### Abstract 127: Health Behaviors and Psychosocial Profile of Tunisian Medical Students: A Call for Student Well-being Initiatives

Sridi C<sup>1,2,3</sup>, Aribi M<sup>1</sup>, Lassoued L<sup>1,4</sup>, Gannoun N<sup>1</sup>, Belhadj N<sup>1,2</sup>, Chelly F<sup>1,2</sup>, Fki I<sup>1,2</sup>, Maoua M<sup>1,2</sup>

1. University of Sousse, Faculty of Medicine of Sousse, Tunisia;
2. Department of Occupational Medicine, Sahloul University Hospital, Sousse, Tunisia;
3. Research Laboratory LR19SP03;
4. Department of Gynecology and Obstetrics, Farhat Hached University Hospital, Sousse, Tunisia

**Introduction:** In the MENA region, rapid societal and educational changes may further exacerbate these pressures.

**Methods:** A descriptive cross-sectional study was carried out among FMSo medical students during the 2023-2024 academic year. An exhaustive sampling strategy was used to recruit students from the 2nd year of Medical Studies to the internship via an online survey. The questionnaire collected comprehensive data on sociodemographics (age, gender, living conditions), lifestyle factors (physical activity, sleep duration, tobacco and alcohol use), and mental

**Results:** The study included 701 medical students (response rate: 52.8%), with a predominance of female participants (69.1%) and a median age of 22 years. The findings revealed a concerning prevalence of stress, with 89.1% of students reporting moderate to high levels of perceived stress. Lifestyle data indicated that 12.1% of students used psychoactive substances, while 9.6% were active smokers. Sleep patterns were also compromised, with a median daily sleep duration often falling below recommended guidelines. Despite these challenges, students demonstrated resilience in their academic commitment, with a median of 4 hours of daily revision.

**Conclusion:** This study provides a detailed snapshot of the health and lifestyle challenges facing Tunisian medical students. The high rates of perceived stress and the presence of substance use behaviors highlight a significant burden on student well-being that institutions cannot ignore. These findings serve as an urgent call to action for medical schools to implement comprehensive wellness programs, including stress management workshops, smoking cessation support, and mental health counseling.

### Abstract 128: Hemodynamic Characteristics and Dialysis Performance of Arteriovenous Fistulas

AHmila A<sup>1</sup>, Dahmane R<sup>1</sup>, Ben Afia A<sup>2</sup>, Baccouche I<sup>2</sup>, Messaoudi I<sup>2</sup>, Mattoussi N1, Zguem A1, Guedri Y1, Hasni I2, Zellama D1

1. Nephrology, Dialysis and Renal Transplantation Department, Sahloul Hospital, Sousse;
2. Radiology department, Sahloul Hospital, Sousse

**Introduction:** Arteriovenous fistulas (AVFs) are the preferred vascular access for hemodialysis due to their superior patency rates and lower risk of infection compared with catheters, as emphasized by the KDOQI guidelines.

**Methods:** A descriptive cross-sectional study was conducted among 15 hemodialysis patients treated between 2024 and 2025. Collected variables included age, sex, AVF type, presence of venous thrombosis, dialyzer type, AVF blood flow (Qa), blood pump speed, and urea reduction ratio (URR/PRU), a validated marker of dialysis adequacy.

**Results:** The mean age was 49.13 years (29-74), and 53% were male. Brachiocephalic (40%) and radiocephalic (33%) AVFs were the most frequent, consistent with patterns reported in

the literature. Venous thrombosis was absent in 80% of patients and partial in 20%, with no cases of complete thrombosis. The mean AVF flow was 1411.4 ml/min, and 26.67% of patients had a high-flow AVF (> 2000 ml/min), a prevalence higher than typically reported. The mean blood pump speed was 283.33 ml/min (240-350). The mean PRU was 70.15 (58.3-80.7), with 80% of patients achieving PRU > 65, indicating adequate dialysis efficiency. The most frequently used dialyzers were 17H (47%) and 17L (27%).

**Conclusion:** Brachiocephalic and radiocephalic AVFs predominated in this cohort, with a low incidence of thrombosis. The notable proportion of high-flow AVFs highlights the need for enhanced hemodynamic monitoring given the documented association between excessive flow and cardiovascular complications. Technical dialysis parameters were largely consistent with international standards, and most patients achieved adequate dialysis as reflected by PRU levels.

### Abstract 129: Hemodynamic effects of general anesthesia in spontaneous mode during dressing changes in burned children

Guellim S, Soussi M, Naouar N, Hajji R, Chrigui R, Naija S

University of Sousse, Faculty of Medicine of Sousse, Sahloul hospital, 4054, Sousse, Tunisia

**Introduction:** This study evaluated the hemodynamic effects of a ketamine-based anesthesia protocol during dressing changes in pediatric burn patients undergoing spontaneous ventilation.

**Methods:** A cross-sectional analytical study was conducted between 2021 and 2022 in pediatric burn patients (<18 years) requiring general anesthesia for dressing changes. After rewarming, monitoring, and preoxygenation, anesthesia was induced with sevoflurane to obtain intravenous access, followed by propofol (0.5–2 mg/kg) and ketamine (1–3 mg/kg). Anesthesia was maintained with sevoflurane and an equimolar oxygen–nitrous oxide mixture. Heart rate (HR) and mean arterial pressure (MAP) were recorded throughout the procedure. Linear mixed-effects models assessed temporal changes in HR and MAP while accounting for repeated dressing changes and inter-patient variability. Weight and burned surface area (BSA) were included as covariates.

**Results:** Forty-five dressing changes were analyzed in 20 children (median age: 41 months; median weight: 16 kg; mean BSA:  $9.3 \pm 5.5\%$ ). Median doses of propofol and ketamine were both 1.7 mg/kg. Mean procedure and anesthesia durations were  $11 \pm 7$  and  $15 \pm 8$  minutes, respectively. HR decreased significantly over time ( $\beta = -5.44$ ,  $*p < 0.001$ ), although residual heteroskedasticity warrants cautious interpretation. MAP remained stable throughout the procedure ( $\beta = -0.63$ ,  $*p = 0.468$ ). Random effects significantly improved both models, whereas weight and BSA had no significant influence on HR or MAP.

**Conclusion:** This ketamine-based anesthetic protocol maintained MAP stability during pediatric burn dressing changes. Although HR declined over time, this finding should be interpreted cautiously because of residual heteroskedasticity.

### Abstract 130: Hidden Cellular Harm: Genomic Instability and ROS Overload Induced by Microplastics in Healthy and Immunodeficient Donors

Zidani N<sup>1</sup>, Arribas Arranz J<sup>2</sup>

1. High Institut of Biotechnology of Monastir
2. Universitat Autònoma de Barcelona

**Introduction:** Polystyrene (PS) particles can cross biological barriers, enter the bloodstream, and interact with blood cells, potentially inducing genomic instability and oxidative stress. This study investigated the genotoxic and oxidative effects of EMPs in healthy individuals and patients with DiGeorge syndrome.

**Methods:** Peripheral blood lymphocytes from nine healthy donors were exposed to EMPs (1, 10, 50, and 100 µg/mL). Genotoxicity was assessed using the cytokinesis-block micronucleus (CBMN) assay and fluorescence in situ hybridization (FISH). In parallel, PS nanoparticle internalization and intracellular reactive oxygen species (ROS) production were evaluated by flow cytometry in lymphocytes from healthy donors and three patients with DiGeorge syndrome using the dihydroethidium (DHE) assay.

**Results:** EMP exposure did not significantly affect cell viability or the nuclear division index. However, it significantly increased micronucleus frequency, micronucleated cells, and micronuclei per cell, demonstrating a clear genotoxic effect. FISH analysis showed that 51% of micronuclei contained centromeric signals, indicating both aneugenic and clastogenic mechanisms. PS nanoparticles were efficiently internalized by lymphocytes from healthy donors and DiGeorge patients without significant cytotoxicity. Internalization was associated with a twofold increase in intracellular ROS in healthy donors. Similarly, all DiGeorge patients exhibited marked oxidative stress following PS uptake, regardless of their clinical phenotype.

**Conclusion:** EMPs induce significant genomic damage and oxidative stress in human lymphocytes. Persistent accumulation of PS nanoparticles may promote mitochondrial dysfunction, genomic instability, and long-term mutagenic or carcinogenic effects, highlighting the need for further investigation into their impact on vulnerable populations.

#### Abstract 131: High Blood Pressure in Primary Care: Clinical Features and Circumstances of discovery

Bradai S<sup>1</sup>, Ketata N<sup>1</sup>, Ben Ayed H<sup>1</sup>, Ben Hmida M<sup>1</sup>, Jdidi J<sup>2</sup>, Yaich S<sup>3</sup>

1. Preventive and hygiene department hedi CHaker university hospital Sfax;
2. Department of preventive and social medicine , Faculty of medicine of Sfax;
3. Community and Epidemiology Department Hédi Chaker Hospital Sfax

**Introduction:** High blood pressure (HBP) constitutes a major public health issue affecting various population groups. It represents the primary cardiovascular risk factor (CVRF), where screening remains a cornerstone in its prevention.

**Methods:** It was a cross-sectional study conducted in Sfax between March and April 2020 across six selected primary healthcare centers using cluster sampling. All hypertensive patients consulting on the days of the survey were included in the study.

**Results:** Among 250 hypertensive patients, 141 were women (56.4%), and 162 individuals (64.8%) had an average socio-economic level. The most represented age group was individuals aged 65 years and older (50%; n=125). Comorbidities associated with HBP were observed in 201 cases (80.4%), with obesity, diabetes, dyslipidemia, and chronic respiratory diseases being the most frequent in 40.4%, 34.4%, 30.4%, and 27.2%, respectively. Stage I and Stage II HBP were noted in 197 cases (78.8%) and 52 cases (20.8%), respectively. It was statistically associated with the age group of 65 years and older (OR=1.8; p=0.04), an average socio-economic level (OR=2.1; p=0.02), and the presence of other associated CVRFs, notably dyslipidemia (OR=3.7; p=0.02), sedentary lifestyle (OR=6.1; p=0.01), and obesity (OR=5.2; p<0.001).

**Conclusion:** Despite the seriousness of HBP as a public health issue, low level of adherence to screening tests was noted. Therefore, strengthening primary, secondary, and tertiary prevention strategies for this condition among the population seems to be essential.

#### Abstract 132: Identification of Novel CHD7 Gene Mutations Associated with CHARGE Syndrome in Tunisian Patients with Congenital Heart Defects

Khelifi R<sup>1</sup>, Rump A<sup>2</sup>, Kooli R<sup>3</sup>, Ajmi H<sup>4</sup>, Phillip Hitz M<sup>2</sup>, Mougou-Zerelli S<sup>1</sup>, Perez Riverol A<sup>2</sup>, Enrique Martinez A<sup>2</sup>, Sboui E<sup>5</sup>

1. Higher institute of Biotechnology Monastir, Laboratory of Cytogenetics, Molecular Genetics and Human Reproductive Biology, University Hospital Farhat Hached Sousse, Tunisia;
2. University Institute for Medical Genetics Carl Von Ossietzky University Oldenburg, Germany;
3. Laboratory of Cytogenetics, Molecular Genetics and Human Reproductive Biology, University Hospital Farhat Hached Sousse, Tunisia;
4. Pediatric Department University Hospital Sahloul Sousse, Tunisia;
5. Pediatric Department Regional Hospital Ibn El Jazzar Kairouan, Tunisia

Congenital heart defects (CHD) are a significant health concern globally, affecting approximately 1% of live births worldwide. Syndromic forms of CHD are often associated with additional developmental anomalies, suggesting a complex genetic etiology. CHD7 genes have been studied due to their association with CHARGE syndrome. This study aims to explore the genetic contributors to CHD within the Tunisian population by sequencing the whole genomes of 22 patients (trios and duos study), presenting in 90% of cases syndromic CHD, using the Illumina NovaSeq 6000 platform (30x genome sequencing (WGS) with 2x 150bp paired ends). Among the identified variants, three de novo mutations in the CHD7 gene were found, notably implicated in CHARGE syndrome a multisystem disorder characterized by congenital anomalies including CHD (C: coloboma, H: heart defects, A: atresia de choana, R: retardation of growth, G: Genital abnormalities, E: Ear abnormalities). The first mutation is a frameshift mutation (c.921\_922delAG, p. Gly308fs) and two de novo nonsense mutations, (c.1480C>T, p. Arg494\*) and (c.2149G>T, p.Gly717\*). Patients harbouring CHD7 mutations displayed clinical phenotypes consistent with CHARGE syndrome mainly congenital heart defects (TOF, VSD, and ASD), genital abnormalities, growth delay, cleft lip and dysmorphic features, highlighting this gene's significant role in CHD pathogenesis within this cohort. However, these CHD7 mutations were observed in 3 cases out of 22, representing 19% all cases studied, suggesting a potentially elevated occurrence of CHD7-related CHD within the Tunisian population.

#### Abstract 133: Imaging Features of Malignant External Otitis

Khribi M, Bejaoui O, Albouchi N, Yahyaoui M, Gnaba K

ENT Department, Ibn El Jazzar teaching hospital, Kairouan, Tunisia

**Introduction:** Malignant external otitis (MEO) is a severe infection of the external auditory canal and skull base which most often affects elderly patients with diabetes mellitus.

**Methods:** We retrospectively reviewed the clinical and imaging records of 38 patients treated for MEO at The ENT Department of Ibn El Jazzar Teaching Hospital of Kairouan (Tunisia)

**Results:** Our study included 38 patients. The mean patient age was 67.7 years (35-98). All of patients had uncontrollable diabetes. The main clinical presentations were otalgia (100%)

and otorrhea (76.3%). Facial palsy was present in 2 patients (5.3%). Culture was positive in 31 patients (81.6%). *Pseudomonas* and *Staphylococcus aureus* were the predominant micro-organisms. Fungal infection was observed in 8 patients (21%). *Candida Albicans* and *Aspergillus* were identified in 4 (10.5%) and 2 (5.3%) patients, respectively. Associated bacterial and fungal infections were noticed in two patients (6.4%). Imaging based on Computed Tomography (CT) scan was performed in 27 patients (71%). Erosion and/or lysis of tympanic part of the temporal bone were shown in 15 cases (55.5%). CT showed thickening and enhancing of periauricular soft tissues in 8 patients (29.6%). CT was useful to identify complications in our series (Table). Ossicular chain lysis (37%), parapharyngeal extension (29.6%) and temporo-mandibular joint involvement (22%) were the main complications shown in this study

**Conclusion:** Proper assessment of the extent of disease in MOE, based on imaging, such as CT scan +/- MRI, is crucial in planning the management and predicting the outcomes of the therapy.

### Abstract 134: Impact of an Educational Intervention on Cervical Cancer Knowledge Among Frontline Medical Doctors

Bannour B<sup>1</sup>, Bannour R<sup>2</sup>, Fhal A<sup>3</sup>, Ben saad OK<sup>2</sup>, Bannour I<sup>1</sup>

1. University of Sousse, Farhat Hached Hospital, Department of Gynecology and Obstetrics, Research Laboratory LR12ES03,4002, Sousse Tunisia;
2. University of Sousse, Faculty of Medicine of Sousse, Department of Family and Community Medicine, Research Laboratory LR12ES03,4002, Sousse Tunisia;
3. Farhat Hached Hospital, Department of Gynecology and Obstetrics Sousse Tunisia

**Introduction:** Cervical cancer remains a major public health issue, particularly in low- and middle-income countries, where screening and vaccination coverage are often suboptimal. Frontline medical doctors play a crucial role in early detection, patient education, and prevention.

**Methods:** A pre- and post-intervention study was conducted among 63 frontline medical doctors. Baseline knowledge about cervical cancer-including epidemiology, risk factors, screening **Methods**, and prevention-was assessed using a structured questionnaire. Following the pre-test, participants attended a comprehensive educational session consisting of lectures, interactive case discussions, and evidence-based updates on cervical cancer prevention and management.

**Results:** A total of 63 frontline medical doctors participated in the study. Prior to the educational intervention, 48% of participants demonstrated good overall knowledge of cervical cancer, while the remainder showed limited understanding of key concepts such as human papillomavirus (HPV) transmission, screening protocols, and vaccination recommendations. Following the intervention, a substantial improvement was observed, with 91% of participants achieving an excellent level of knowledge. Improvements were consistent across all assessed domains: awareness of cervical cancer risk factors increased from 56% to 94% ( $p=0,038$ ), knowledge of screening **Methods** and intervals from 49% to 89% ( $p=0,048$ ) and recognition of national prevention guidelines from 52% to 90% ( $p < 0.05$ ).

**Conclusion:** These findings highlight the effectiveness of structured, interactive educational programs in bridging knowledge gaps and strengthening the capacity of healthcare professionals to promote cervical cancer prevention. Sustained training and periodic refresher sessions are recommended to maintain and further enhance these gains.

### Abstract 135: Impact of Anesthetic Technique on Perioperative Morbidity and Mortality Following Transvesical Adenomectomy

Ajmi M, Chrigui R, Ben Hammeda H, Guellim S, Youzbechi A, Hajji R, Kahloul M, Naija W

Department of Anesthesiology and Resuscitation, Sahloul University Hospital

**Introduction:** Benign prostatic hyperplasia is a common condition in older men, affecting nearly 50% of men by age 60 and almost all men over 80. Open simple prostatectomy (transvesical adenomectomy) remains the reference procedure for large prostates, despite hemorrhagic

**Methods:** We conducted a retrospective, observational, analytical study in the Urology Department of Sahloul University Hospital (Sousse), including patients who underwent transvesical adenomectomy between January 2020 and December 2024. Patients receiving either general anesthesia or spinal anesthesia with complete medical records and postoperative follow-up were included. Exclusion criteria were coagulation disorders, anesthetic conversion, or reoperation.

**Results:** Thirty patients were included, with a mean age of 68 years. Most were ASA I-II, and 70% had comorbidities, mainly hypertension (33%), diabetes (20%), and coronary artery disease (17%). Eighteen patients received spinal anesthesia and 12 received general anesthesia. Operative and anesthetic times were longer under general anesthesia (66.3 and 76.3 min) than under spinal anesthesia (47.8 and 56.1 min;  $p = 0.008$ ). Transfusion and catecholamine requirements were more frequent in the general anesthesia group. No major postoperative complications were reported. Length of stay was longer under general anesthesia (9.1 vs 8.1 days), without a significant difference ( $p = 0.22$ ).

**Conclusion:** Transvesical adenomectomy remains a surgery with a significant risk of bleeding. In our study, general anesthesia was associated with greater blood loss and a slightly longer hospital stay, with no observed mortality. Larger prospective studies are needed to confirm these findings.

### Abstract 136: Impact of Climate Change and Air Pollution on Respiratory Health in the Middle East and North Africa: A Narrative Review

Abdelmoula M<sup>1</sup>, Sayhi A<sup>2,3</sup>, Abdelhedi Y<sup>2</sup>, Guezguez F<sup>2,3</sup>, Ghannouchi I<sup>2,3</sup>, Rouatbi S<sup>2,3</sup>

1. University of Sousse, Faculty of Medicine of Sousse, Hopital Farhat Hached, Laboratory of Physiology and Functional Explorations, Sousse, Tunisia;
2. University of Sousse, Faculty of Medicine of Sousse, Hopital Farhat Hached, Laboratory of Physiology and Functional Explorations, Sousse, Tunisia;
3. University of Sousse, Faculty of Medicine of Sousse, Hopital Farhat Hached, Heart Failure (LR12SP09) Research Laboratory, Sousse, Tunisia

**Introduction:** Climate change and air pollution are increasingly recognized as major factors affecting respiratory health worldwide. The Middle East and North Africa (MENA) region is especially vulnerable to environmental stressors such as desert dust storms, high levels of particulate matter, biomass burning, and extreme heat. Despite this, research compiling their effects on respiratory health in the MENA region is still limited.

**Methods:** This narrative review summarizes current evidence on the link between climate-related and air pollution exposures and respiratory health outcomes in MENA populations. **Methods.** A narrative literature review was conducted using

PubMed. The search strategy combined MeSH terms and free-text words related to air pollution, climate change, particulate matter, dust storms, asthma, chronic obstructive pulmonary disease, and respiratory health, restricted to human studies conducted in the MENA region and published over the last 10 years. Studies reporting respiratory outcomes in relation to environmental or climate-related exposures were included.

**Results:** The search identified 29 publications, of which 26 studies met the inclusion criteria, including 19 observational studies and 7 systematic or narrative reviews. Most studies reported significant associations between ambient particulate matter and increased respiratory symptoms, asthma exacerbations, and hospital admissions. Dust storms were consistently associated with acute respiratory events and emergency department visits. Biomass smoke exposure, particularly among women in rural settings, was associated with chronic respiratory symptoms and airflow limitation.

**Conclusion:** Available evidence suggests that air pollution and climate-related environmental exposures substantially affect respiratory health in the MENA region. However, significant knowledge gaps persist, particularly regarding COPD and long-term climate impacts. Future research should prioritize well-designed longitudinal studies to inform regional public health policies and climate adaptation strategies.

### Abstract 137: Impact of down syndrome on parental quality of life

Ben Belgacem H, Abdelbari M, Nesrine J, Ben Guedria M, Kebaili R, Tej A, Tilouche S, Soyah N, Boughamoura L

Department of Pediatrics, Farhat Hached University Hospital, Sousse, Tunisia

**Introduction:** Down syndrome is a chromosomal disorder leading to intellectual disability and posing challenges for families. This study evaluated the quality of life (QoL) of parents and explored associated factors.

**Methods:** This was a descriptive and analytical study conducted over a one-month period among 31 parents of children with Down syndrome enrolled at El Amal School for Children with Disabilities in Msaken, Sousse ; Tunisia. Data were collected using the validated WHOQOL-BREF questionnaire, which assesses four dimensions of quality of life : physical health, psychological health, social relationships, and environment.

**Results:** The study population was predominantly composed of mothers (90.3%). More than half of the participants (51.6%) reported impaired overall QoL. The highest mean score was observed in the psychological health domain (58.06 +/- 19.30), followed by physical health (56.68 +/- 17.73), social relationships (53.76 +/- 27.12), and finally the environmental dimension, which was the most affected (50.20 +/- 17.06). Statistical analysis revealed a significant association between emotional support and better parental QoL ( $p = 0.029$ ). Additional trends included markedly impaired QoL among illiterate mothers (100%) and among parents without family support (60.9%).

**Conclusion:** Parental quality of life in the context of Down syndrome is shaped by diverse and interrelated factors. Its improvement requires a holistic strategy encompassing social support, financial assistance, tailored training, and targeted psychosocial care.

### Abstract 138: Impact of Maternal Employment Status on the Occurrence of Non-Syndromic Orofacial Clefts

Chouchane A<sup>1,2</sup>, Jemmeli I<sup>2,3</sup>, Tebourbi Y<sup>1,2</sup>, Sghair Z<sup>2</sup>, Ayedi A<sup>4</sup>, Gaddour A<sup>2,3</sup>, Kbaili R<sup>5</sup>, Chatti S<sup>1,2</sup>, Ayeche S<sup>4</sup>, Mrizak N<sup>1,2</sup>

1. Occupational Medicine and Occupational Diseases Department,

Farhat Hached University Hospital, Sousse, Tunisia;  
2. Faculty of Medicine of Sousse, Research Laboratory LR19SP03, University of Sousse, Sousse, Tunisia;  
3. Occupational Medicine and Occupational Diseases Department, Ibn El Jazzar University Hospital, Kairouan, Tunisia;  
4. Maxillofacial Surgery Department, Farhat Hached University Hospital, Sousse, Tunisia;  
5. Pediatrics Department, Farhat Hached University Hospital, Sousse, Tunisia

**Introduction:** Non-syndromic orofacial clefts (NSOFC) are common congenital anomalies influenced by genetic and environmental factors. Maternal socioeconomic conditions, including employment status, may play a role in their occurrence. Objectif : To assess the association between maternal employment status and the occurrence of non-syndromic orofacial clefts in offspring.

**Methods:** It was a case-control study carried out during 2 years. All participants were recruited from the 2 academic hospitals in Sousse. Information on potential environmental and occupational risk factors was collected through a standardized questionnaire. Logistic regression models were used to estimate the odds ratios (ORs) and 95% confidence intervals (CIs) for the association between each risk factor and NSOFC.

**Results:** The study included 206 participants of which 103 cases with NSOFC and 103 unaffected controls, matched by age and gender. Among participating mothers, 70.8% of cases and 43.6% of controls were unemployed, a statistically significant difference suggesting a protective effect of maternal employment against NSOFC ( $p < 10^{-3}$ ; OR=3.13; 95% CI: 1.76-5.58). After adjustment for potential confounding factors in a multivariate binary logistic regression model, maternal unemployment was not independently associated with the occurrence of NSOFC.

**Conclusion:** Maternal employment appears to play a protective role against NSOFC in bivariate analysis. Further studies are needed to explore underlying socioeconomic and environmental mechanisms.

### Abstract 139: Impact of physical activity on mental wellbeing among secondary school-teachers in Southern-Tunisia

Bradai S<sup>1</sup>, Ketata N<sup>1</sup>, Ben Ayed H<sup>1</sup>, Ben Hmida M<sup>1</sup>, Mondher K<sup>2</sup>, Jihen J<sup>3</sup>, Yaich S<sup>4</sup>

1. Department of preventive medicine and hygiene Hedi CHaker hospital Sfax;  
2. Department of preventive medicine and hygiene Habib Bourguiba hospital Sfax;  
3. Department of preventive and social medicine , faculty of medicine Sfax;  
4. Community and epidemiology department Hédi CHaker Hospital Sfax

**Introduction:** It had been admitted as an evidence the association between physical activity and the general human mental and physical wellbeing. Education professions seem to be characterized by relatively high level of stress, which could be improved through regular

**Methods:** A cross-sectional study was conducted on a randomized sample of 525 secondary school teachers in Sfax, Southern Tunisia between March and April 2021. The instrument used for data collection was first tested then validated by a team of experts in epidemiology. It included sociodemographic characteristics of teachers and validated tools to assess psychological distress (Kessler k-6) and burnout syndrome (Maslach Burnout Inventory-Human

**Results:** Over 525 school-teachers, 292 cases were women (55.6%) (Confidence interval (CI) 95%= [51.2-59.9]) and 293

teachers were living in urban areas (73.1%) (CI 95%= [51.4-60.1]). Their median age was 48 years old (IQR= [41-53] years). According mean of transport to work, the personal car was used by 192 teachers (36.6%) (CI 95%= [32.2-40.9]) and walking by 119 teachers (22.7%) (CI95%= [19.3-28.8]). The mean value of working experience as a teacher was 21 +/-9.5 years. Exercising vigorous or moderate physical activity was independently associated with lower prevalence of psychological distress (Adjusted odds ratio (AOR)=0.5; p=0.002) and lower prevalence of burnout syndrome (AOR=0.5; p=0.005).

**Conclusion:** Health education among teachers regarding the importance of physical activity for their mental well-being as well as its implication in dangerous physical issues such as obesity seem to be crucial.

### Abstract EP 140: Impact of Ramadan Fasting on Clinical and Biological Parameters in Patients with Type 2 Diabetes at Farhat Hached University Hospital, Sousse

Bannour R<sup>1</sup>, Ach T<sup>2,3</sup>, Sahli J<sup>1</sup>, Ben Marzoug R<sup>4</sup>, Guedri K<sup>4</sup>, Amel A<sup>1</sup>, Saad G<sup>2,3</sup>, Hasni Y<sup>2,3</sup>

1. University of Sousse, Faculty of Medicine of Sousse, Department of Family and Community Medicine, LR12ES03, 4000 Sousse, Tunisia;
2. Endocrinology and Diabetology Department, Farhat Hached University Hospital;
3. Laboratory of Exercise Physiology and Pathophysiology, L.R.19ES09, Sousse, Tunisia;
4. University of Sousse, Faculty of Medicine of Sousse, Department of Family and Community Medicine,, 4000 Sousse, Tunisia

**Introduction:** Ramadan fasting induces metabolic changes in patients with type 2 diabetes (T2D), yet its effects on clinical and biological parameters remain unclear. This study aimed to evaluate the impact of Ramadan fasting on clinico-biological outcomes in T2D patients followed in Tunisia.

**Methods:** This longitudinal study included T2D patients followed in the Endocrinology Department of Farhat Hached University Hospital in Sousse over a 3-month period (including Ramadan) in 2024. Only patients with low or moderate Diabetes and Ramadan (DAR) risk scores were enrolled. Data were collected in three phases: pre-Ramadan, during Ramadan, and post-Ramadan.

**Results:** A total of 111 patients were included, with a median age of 64 years and a slight male predominance (50.5%). Most patients (83.8%) completed the full month of fasting. No significant changes were observed before and after Ramadan in weight (78.63 +/- 8.62 vs. 78.59 +/- 8.47 kg; p = 0.69), BMI (28.5 +/- 3.21 vs. 28.49 +/- 3.18 kg/m<sup>2</sup>; p = 0.75), systolic or diastolic blood pressure, fasting plasma glucose, HbA1c, urea, creatinine, or creatinine clearance (all p > 0.05).

**Conclusion:** In T2D patients with low or moderate risk, Ramadan fasting does not lead to significant clinical or biological changes, suggesting good metabolic tolerance when conducted under appropriate medical supervision.

### Abstract 141: Impact of Ramadan Fasting on Lipid Parameters in Patients with Type 2 Diabetes: A Study at Farhat Hached University Hospital, Sousse

Bannour R<sup>1</sup>, Ach T<sup>2,3</sup>, Ben Marzoug R<sup>4,5</sup>, Ben Saad OK<sup>4,5</sup>, Guedri K<sup>4,5</sup>, Saad G<sup>2,3</sup>, Hasni Y<sup>2,3</sup>

1. University of Sousse, Faculty of Medicine of Sousse, Department of Family and Community Medicine, LR12ES03, 4000 Sousse, Tunisia;
2. Endocrinology and Diabetology Department, Farhat Hached University Hospital;
3. Laboratory of Exercise Physiology and Pathophysiology, L.R.19ES09,

Sousse, Tunisia;

4. University of Sousse, Faculty of Medicine of Sousse;

5. Department of Family and Community Medicine, 4000 Sousse, Tunisia

**Introduction:** Ramadan fasting represents both a physical and psychological challenge for patients with type 2 diabetes. Its impact on their health, particularly on lipid profiles, remains controversial. The aim of this study was to assess the effect of Ramadan fasting on lipid parameters in patients with T2D in Tunisia.

**Methods:** A longitudinal study included patients with type 2 diabetes followed in the Endocrinology Department of Farhat Hached University Hospital, Sousse, was conducted over a 3-month period (including Ramadan) in 2024. Only patients with low or moderate Diabetes and Ramadan (DAR) risk scores were included. Data were collected in three phases: pre-Ramadan, during Ramadan, and post-Ramadan.

**Results:** A total of 111 patients were included, with a median age of 64 years (45-69) and a slight male predominance (50.5%). Most participants (83.8%) completed the entire month of fasting. Total cholesterol levels were significantly lower after Ramadan compared to pre-Ramadan values (4.22 +/- 1.00 mmol/L vs. 4.49 +/- 1.13 mmol/L; p = 0.04). LDL cholesterol also decreased significantly (0.95 +/- 0.32 IU/L vs. 1.02 +/- 0.38 IU/L; p = 0.021).

**Conclusion:** Ramadan fasting appears to be associated with an improvement in lipid profiles in patients with type 2 diabete, suggesting good overall tolerance and potential metabolic benefit when performed under appropriate medical supervision.

### Abstract EP 142: Impact of Ramadan Fasting on Urological Emergency Patterns: A 2025 Retrospective Analysis

Loghmani A<sup>1</sup>, Ben Abdallah W<sup>1</sup>, Friaa M<sup>2</sup>, Jaballah R<sup>3</sup>, Bouassida K<sup>2</sup>, Zorgati A<sup>3</sup>, Boukef R<sup>3</sup>, Jaidane M<sup>2</sup>

1. LR12ES04, Urology Department, Sahloul University Hospital, Faculty of Medicine, University of Sousse, Sousse, Tunisia;
2. Urology Department, Sahloul University Hospital, Faculty of Medicine, University of Sousse, Sousse, Tunisia;
3. Emergency Department, Sahloul University Hospital, Faculty of Medicine, University of Sousse, Sousse, Tunisia

**Introduction:** Urological emergencies are a frequent reason for emergency department visits. However, few studies have focused on these cases, particularly during the holy month of Ramadan. The fast involves significant changes in dietary and fluid intake habits-often leading to

**Methods:** This was a descriptive and retrospective study conducted during the month of Ramadan in 2025 (extending from March 1st to March 30th, 2025). The study included all fasting patients who presented to the Sahloul University Hospital emergency department for urological motives.

**Results:** Consultation Volume: Out of 4,529 total emergency patients, 331 presented for urological reasons (7.3%). ? Timing: 52% of these patients consulted during the first fortnight of Ramadan. The mean consultation time was 1:02 PM +/- 06:38. ? Demographics: The average age of the study population was 48 +/- 17 years (ranging from 15 to 92 years), with a sex ratio of 1.9. ? Primary Motives: o Renal Colic: 62% (The leading cause). o Acute Urinary Retention: 8%.

**Conclusion:** The month of Ramadan can induce a state of hydric stress, particularly when it falls during warmer seasons. This dehydration can trigger or exacerbate urolithiasis (kidney stones), making renal colic the primary urological reason

for emergency visits and the leading cause of emergency hospitalizations in urology.

#### Abstract 143: Impact of severe head-dominated teratozoospermia on ICSI outcomes

Ghodhbane E, Gherissi O, Elbani B, Ben Mustapha H, Ajina M

Reproductive Biology Department, Farhat Hached, Sousse

**Introduction:** Severe teratozoospermia remains a major challenge in assisted reproduction, especially when dominated by head defects. This study aimed to evaluate the impact of severe head-predominant teratozoospermia on ICSI outcomes.

**Methods:** A retrospective observational study was conducted at the Reproductive Biology Department of Farhat Hached Hospital, Sousse (Tunisia), from January 2024 to April 2025. Among 134 infertile couples assessed, 87 were included: a case group with severe teratozoospermia ( $n = 53$ ; normal forms  $< 3\%$ ) and a control group ( $n = 34$ ; morphology  $\geq 4\%$ ). ICSI was performed after sperm selection under high-magnification inverted microscopy.

**Results:** Baseline characteristics were comparable between groups. The mean male age was  $39.2 \pm 6.1$  years in the severe teratozoospermia group versus  $36.4 \pm 5.8$  years in controls. The mean infertility duration was  $4.8 \pm 2.3$  versus  $4.1 \pm 2.0$  years, and BMI distribution showed no significant difference. Fertilization rates were significantly lower in the severe teratozoospermia group ( $58.5\%$  vs  $72.1\%$ ,  $p < 0.05$ ). The proportion of top-quality embryos was also reduced ( $31.4\%$  vs  $47.1\%$ ,  $p < 0.05$ ). Clinical pregnancy rates were markedly decreased ( $18.9\%$  vs  $35.3\%$ ,  $p < 0.05$ ). Acrosomal defects represented  $42.5\%$  of all head anomalies, compared with  $18.7\%$  in the control group ( $p < 0.01$ ). These defects showed a strong negative correlation with fertilization failure and poor embryo quality.

**Conclusion:** Severe head-dominant teratozoospermia significantly compromises ICSI outcomes despite micromanipulation techniques. Advanced sperm-selection approaches and targeted genetic assessments may help improve reproductive success in this population

#### Abstract 144: Impact of the COVID-19 Pandemic on Surgical Residency Training: Time to Digitalization

Khribi M<sup>1</sup>, Yayaoui M<sup>1</sup>, Kechini O<sup>1</sup>, Lahouar R<sup>2</sup>, Souaii S<sup>1</sup>, Gnaba K<sup>1</sup>

1. Anesthesia and intensive care department, Ibn Eljazzar University Hospital, Kairouan, Tunisia

2. Urology Department, Ibn Eljazzar University Hospital, Kairouan, Tunisia

**Introduction:** The COVID-19 pandemic has had a profound impact on medical education, particularly in surgical specialties. Surgical training, traditionally reliant on hands-on experience, has faced unprecedented challenges due to reduced clinical activities and elective surgeries.

**Methods:** A cross-sectional survey was conducted at a teaching hospital in Tunisia between December 1st and 30th, 2020. The survey, distributed to 36 surgical residents, included questions on demographic characteristics, training activities, and psychological impact using the GAD-7 and PHQ-9 questionnaires. Data on respondents' suggestions for training improvements were also collected.

**Results:** Of the invited residents, 72% (26 participants) responded. The respondents reported a significant reduction in clinical and surgical training opportunities, with 85% believing

the pandemic negatively impacted their training. Psychological assessment revealed increased stress and anxiety among all participants, with 77% showing signs of depression. The residents suggested increasing the frequency of teleconference-based college courses and clinical case discussion sessions. Additionally, the adoption of low-cost simulation-based training, free access to online surgical video libraries, and use of the Touch Surgery application were highlighted as valuable tools.

**Conclusion:** The COVID-19 pandemic has significantly disrupted surgical residency training in Tunisia, impacting both the training quality and psychological well-being of residents. The findings emphasize the need for innovative training methodologies in low-resource settings. Proposed measures, including simulation-based training using low-cost models and enhanced digital resources, offer practical solutions to sustain surgical education during such global crises.

#### Abstract 145: Impact of Virtual Reality Simulation on CPR Skill Acquisition in Anesthesia and Critical Care Students

Ajmi M<sup>1</sup>, Kacem I<sup>2</sup>, Chrigui R<sup>1</sup>, Aloui A<sup>2</sup>, Ben Hammeda H<sup>1</sup>, Youzbechi A<sup>1</sup>, Shkiri Z<sup>1</sup>, Derouich S<sup>1</sup>, Kahloul M<sup>1</sup>, Najja W<sup>1</sup>

1. Department of Anesthesiology and Resuscitation; Sahloul University Hospital,

2. Hached University Hospital Occupational Medicine Department

**Introduction:** Health sciences education is increasingly learner-centered, promoting active and experiential Methods. Virtual reality (VR) is emerging as an innovative tool that enables immersive simulation of complex clinical situations-such as cardiopulmonary resuscitation (CPR)-within a safe environment.

**Methods:** A pre-experimental before-after study was conducted at the Private Faculty of Health Sciences in Sousse (UPSAT) in May 2025, involving third-year undergraduate anesthesia and critical care students. Data collection tools included a technical skills assessment checklist (pre- and post-test) based on SFAR recommendations and a satisfaction questionnaire.

**Results:** Twelve students participated. Before training, the mean pre-test score was  $8.8/20$ , and only half of participants scored  $\geq 10/20$ . After the session, the mean post-test score increased to  $15.75/20$ , with almost all learners achieving  $\geq 10/20$ . Satisfaction assessment showed that most students rated the organization, equipment, video, debriefing, and instructors as "good" or "excellent." Overall experience was rated "excellent" by 75% of participants, and all expressed motivation to attend further VR-based training and to integrate it into the curriculum.

**Conclusion:** Virtual reality is an innovative and promising approach for health education, enabling simulation of rare or critical clinical scenarios without risk to patients. This pre-experimental before-after study showed that VR significantly improves CPR-related skills and student satisfaction. Despite technical and financial limitations, VR could enhance teaching practices and benefit both learners and educators if institutionally implemented and supported through collaboration with IT specialists

#### Abstract 146: Implementing an Open Visiting Policy in Adult ICUs: Insights from Healthcare Providers

Srihi S<sup>1</sup>, Ilhem H<sup>1</sup>, Ben Hamada H<sup>1</sup>, Chrigui R<sup>1</sup>, Soussi M<sup>1</sup>, Landolssi O<sup>1</sup>, Missaoui E<sup>1</sup>, Dahmane S<sup>2</sup>, Chaouch A<sup>1</sup>, Najja W<sup>1</sup>

1. Department of Anesthesia and Intensive Care Sahloul Teaching Hospital, Sousse, Tunisia;

2. Higher School of Health Sciences and Technologies of Monastir

**Introduction:** Open visiting policies in intensive care units (ICUs) are increasingly encouraged to enhance patient and family-centered care. However, healthcare professionals often express concerns about their potential effects on workflow, patient privacy, and safety.

**Methods:** A multicenter descriptive cross-sectional study was conducted from February to March 2024 across six adult ICUs in the Sahel region of Tunisia. Participants included nurses, anesthesia-intensive care, and emergency-intensive care technicians. Data were collected using a validated, self-administered 37-item questionnaire assessing sociodemographic and professional characteristics, perceptions of open visiting for patients, staff, and families, as well as perceived barriers and facilitators.

**Results:** Among 190 distributed questionnaires, 187 were completed (response rate: 76.3%). Most respondents were female (80%) and nurses (77.2%), with a mean age of 35 +/- 6 years; over half (53.1%) had less than five years of ICU experience. Only 20% reported that their unit operated a 24-hour open visiting policy. While 66.9% had never received communication training, 79.3% expressed interest in it. Few participants believed open visiting consistently improved patient recovery (5.5%) or reduced anxiety (9%). Reported challenges included workflow disruption (37.2%) and disturbances in the work environment (41.4%). Family presence during procedures, resuscitation, or children's visits was largely opposed. Suggested improvements included staff and family education (27.3%) and the development of clear visiting protocols (29.6%). Main barriers were visitors' lack of awareness (39.3%) and increased workload (26.2%).

**Conclusion:** Effective implementation requires comprehensive staff training, clear institutional protocols, and structured communication strategies to balance openness with safety, workflow efficiency, and patient and family satisfaction.

### Abstract 147: Incidence and Factors Associated to Healthcare-Associated Urinary Tract Infections at Sahloul University Hospital of Sousse in 2022: A 3-Month longitudinal study

Meddeb T<sup>1</sup>, Ghali H<sup>2</sup>, Ben Saad O<sup>2</sup>, Azouzi F<sup>3</sup>, Balhi S<sup>2</sup>, Bhiri S<sup>2</sup>, El Hadded N<sup>2</sup>, Ben Cheikh A<sup>2</sup>, Trabelsi H<sup>4</sup>, Said Laatiri H<sup>2</sup>

1. Department of Preventive and Community Medicine , Sahloul University Hospital of Sousse , Tunisia;
2. Department of Preventive and Community Medicine Sahloul University Hospital of Sousse , Tunisia Faculty of Medicine of Sousse , University of Sousse;
3. Department of microbiology , Farhat Hached University Hospital of Sousse Faculty of Medicine of Sousse , University of Sousse;
4. Department of Microbiology Sahloul University Hospital of Sousse , Tunisia Faculty of Pharmacy of Monastir

**Introduction:** Healthcare-associated urinary tract infections (HAUTIs) are a public health problem due to their frequency, severity, and socioeconomic burden.

**Methods:** This was a prospective, descriptive, longitudinal incidence study conducted on patients hospitalized for more than 48 hours at the Sahloul University Hospital Center (CHU) in Sousse over a 3-month period, from August 1, 2022, to October 31, 2022.

**Results:** Our study included 1,947 patients, of whom 54 presented with a healthcare-associated infection (HAI), representing an overall incidence of 2.8%. Taking into account the length of hospital stay, the incidence density was 3.16 patients per 1000 hospital days. The incidence of catheter-related urinary tract infections (UTIs) was 3.75%, representing an incidence density of 12.34 cases per 1000 catheter-days.

Regarding the microbiological profile, Gram-negative bacilli (GNB) were the most frequently cultured bacteria in infected urine samples (56.6% of cases). In univariate analysis, the dominant risk factors were age  $\geq 55$  years, length of hospital stay ( $p < 0.03$ ), a history of hospitalization within the last 6 months ( $p = 0.03$ ), a history of neurogenic bladder ( $p = 0.04$ ), and a history of or current urinary catheterization ( $p = 0.02$ ). Multivariate analysis confirmed that age, length of hospital stay, and urinary catheter placement are independent risk factors associated with urinary tract infection (UTI).

**Conclusion:** Estimating the incidence of healthcare-associated infections (HAIs) and understanding their risk factors and the main microorganisms implicated in their occurrence are essential in order to develop rigorous and practical guidelines to help healthcare staff prevent them and better manage their complications.

### Abstract EP 148: Influence of Ramadan Fasting on Cardiovascular Risk in Patients with Type 2 Diabetes at Farhat Hached University Hospital, Sousse

Bannour R<sup>1</sup>, Ach T<sup>2,3</sup>, Ben Marzoug R<sup>4,5</sup>, Ben Saad OK<sup>4,5</sup>, Guedri K<sup>4,5</sup>, Saad G<sup>2,3</sup>, Hasni Y<sup>2,3</sup>

1. University of Sousse, Faculty of Medicine of Sousse Department of Family and Community Medicine, LR12ES03, 4000 Sousse, Tunisia;
2. Endocrinology and Diabetology Department, Farhat Hached University Hospital;
3. Laboratory of Exercise Physiology and Pathophysiology, L.R.19ES09, Sousse, Tunisia;
4. University of Sousse, Faculty of Medicine of Sousse;
5. Department of Family and Community Medicine, 4000 Sousse, Tunisia

**Introduction:** Ramadan fasting induces metabolic changes in patients with type 2 diabetes (T2D), and its consequences on cardiovascular risk (CVR) remain uncertain. The aim of this study was to assess the impact of Ramadan fasting on CVR among T2D patients in Tunisia.

**Methods:** This longitudinal study included T2D patients followed in the Endocrinology Department of Farhat Hached University Hospital in Sousse over a 3-month period (including Ramadan) in 2024. Only patients with a low or moderate Diabetes and Ramadan (DAR) risk score were included. Data collection was conducted in three phases: pre-Ramadan (sociodemographic data, diabetes characteristics, cardiovascular risk, treatment, etc.), during Ramadan, and post-Ramadan (clinical

**Results:** A total of 111 patients were included, with a median age of 64 years (45-69) and a slight male predominance (50.5%). Most patients (83.8%) completed the entire month of fasting. The mean GLOBORISK score significantly decreased from 32.87 +/- 11.91 to 22.37 +/- 10.05 ( $p < 0.001$ ). Comparison of CVR categories before and after Ramadan (with decreases in the "very high" and "high" categories and increases in the "moderate" and "low" categories) showed a statistically significant difference ( $p < 0.001$ ).

**Conclusion:** Our findings suggest that Ramadan fasting, when conducted under appropriate medical supervision, may contribute to a reduction in cardiovascular risk among patients with T2D.

### Abstract EP 149: Innovating Medical Education : Development and evaluation of a Serious Game in Gastroenterology

Mrabet S<sup>1</sup>, Harbi R<sup>1</sup>, Akkari I<sup>1</sup>, Maoua M<sup>1</sup>, Naija W<sup>1</sup>, Ben Jazia E<sup>1</sup>

Faculty of Medicine of Sousse, University of Sousse

Serious games are student-centered learning techniques based on the theory of gamification. This study aims to propose a digital simulation scenario in Gastroenterology and to evaluate its use by students in the first year of the second cycle of medical studies. **Materials and Methods:** This is a cross-sectional study carried out in the hepato-gastroenterology department of the Farhat Hached University Hospital, Sousse, including medical students in the first year of the second cycle of medical studies, for the academic year 2024-2025. The serious game was a Branching scenario developed using the H5P available on the Moodle platform. The chosen theme was "Vomiting" given its frequency and its multiple etiologies. For the evaluation of the scenario by the learners, we used two validated questionnaires: the System usability scale (SUS) and the User experience questionnaire (UEQ). **Results:** The Conception and development of the serious game was done in Lumi, with the H5P Branching Scenario module and was based on an algorithm including clinical vignette, diagnostic orientation, additional examinations, and management. The branches between the blocks illustrated the different proposals offered to the learner according to their choices, with immediate feedback. At the end of the scenario, a total score out of 20 points is displayed, as well as a summary of the clinical situation including the key messages. This scenario was completed by 50 learners who obtained scores between 8/20 and 20/20. The scenario was appreciated as "excellent" by 78% of students based on the SUS score.

#### Abstract EP 150: Integrating digital and collaborative pedagogy in medical education to develop community engagement competencies among healthcare students

Maha Chabchoub M, Marwa Ben Amor, Olfa Abdelkefi, Afifa Sellami, Tarek Rebai, Salima Daoud

Laboratory of Histology-Embryology and Reproductive Biology, Faculty of Medicine of Sfax, Tunisia

**Introduction:** Community engagement is increasingly recognized as essential not only in health research but also in the training of future health professionals. Building engagement-oriented learning environments during medical education helps develop collaboration, reflection, and shared responsibility crucial for later

**Methods:** The intervention targeted first- and second-year medical students through a Moodle-based environment integrating interactive activities: guided reflections, digital slide annotations, interpretative diagram construction, and reformulation of scientific statements. Asynchronous and synchronous sessions included peer corrections and moderated discussion forums to stimulate dialogue and shared learning.

**Results:** The integration of Moodle-supported activities increased student participation, motivation, and collective engagement. Learners reported improved understanding of histological concepts and enhanced communication and collaboration skills, aligned with participatory and community-engaged research principles. The mean group score improved significantly between the online pretest conducted before each session (average = 9.5/20) and the in-person post-test administered at the end of the session (average = 16.5/20), confirming measurable learning gains.

**Conclusion:** By reinforcing interaction, shared feedback, and co-responsibility, this digital and collaborative teaching model fostered a learning community that mirrors the principles of community engagement in health research. The experience demonstrates that embedding engagement-oriented pedagogy

within preclinical medical education can contribute to developing future health professionals prepared for collaborative and community-responsive research environments.

#### Abstract 151: Integrating molecular and structural reproductive health education with digital and AI tools for

Chabchoub M, Abdelkefi O, Ben Amor M, Sellami A, Rebai T, Daoud S

Laboratory of Histology-Embryology and Reproductive Biology, Faculty of Medicine of Sfax, Tunisia

**Introduction:** Infertility and reproductive disorders represent a substantial global health challenge, disproportionately affecting populations in resource-limited and conflict-affected regions. Rapid advances in reproductive genetics and histology have expanded understanding of fertility mechanisms, yet these subjects are often taught separately in medical curricula, limiting students' ability to connect molecular processes with tissue-level structures.

**Methods:** This framework integrates genetics and histology in a unified reproductive health course. Genetic concepts are linked to histological analysis of normal and pathological reproductive tissues, using AI-enhanced digital microscopy to connect morphology with molecular pathways. Clinical cases from diverse populations demonstrate how genetic alterations lead to structural abnormalities and reflect global reproductive health challenges.

**Expected Results:** This framework is expected to enhance comprehension of reproductive biology across molecular and structural levels, strengthen the ability to correlate genetic alterations with histopathological features, and foster early adoption of AI-assisted diagnostic thinking. Engagement with global case studies and community projects is anticipated to increase awareness of reproductive health disparities and public health responsibilities.

**Discussion:** Integrating molecular and structural perspectives bridges basic and clinical sciences by linking genetics, histology, and clinical context. This approach enhances understanding of disease mechanisms, AI and genomic applications in fertility care, while fostering cultural competence and preparedness for diverse healthcare settings.

**Conclusion:** A curriculum combining genetics, histology, AI-enhanced learning, and community engagement strengthens scientific reasoning and prepares clinicians for precision reproductive care. This integrated model connects foundational science with patient and population needs, aligning medical education with advances in global health and precision medicine.

#### Abstract 152: Interventions to control the dynamics of antimicrobial resistance from chickens through the environment (ENVIRE)

Mtibaa M<sup>1</sup>, Mahjoub A<sup>1</sup>, Azaiez S<sup>1</sup>, Dardouri M<sup>2</sup>, Bouhlel NE<sup>1</sup>, Jendoubi I<sup>1</sup>, Souguir M<sup>1</sup>, Madec JY<sup>3</sup>, Haenni M<sup>3</sup>, Mansour W<sup>1</sup>

1. Faculty of Medicine of Sousse, University of Sousse, Tunisia
2. College of Nursing, Hail University, Saudi Arabia
3. Bacterial Resistance and Virulence Unit ANSES, Lyon, France

The excessive use of antibiotics in livestock is a major driver of the dissemination of resistance genes, not only within animal production systems but also across human and environmental contexts. In this perspective, the ENVIRE consortium was established, bringing together five countries (Tunisia, Germany, France, Lithuania, and Poland) around an integrated approach

to limit antimicrobial resistance in poultry farming. In broiler production, antibiotic therapy promotes the spread of multidrug-resistant bacteria, highlighting the urgent need to develop sustainable alternatives such as manure composting, litter treatment, and vaccination. Tunisia plays a central role in this consortium through two major contributions: a team of bacteriologists is investigating the use of phytotherapy to reduce antibiotic application in the absence of declared infections, by exploiting the antibacterial properties of medicinal plants to limit colonization by resistant bacteria, while maintaining zootechnical performances comparable to those achieved with conventional antibiotic treatments. In parallel, a team of chemists is developing polymers with high affinity for antibiotics, aiming to minimize their release into the environment.

### **Abstract 153: Is Digestive Discomfort Linked to Depression, Anxiety, Stress, Sleep Disorder, and Fatigue? A cross-sectional study among Tunisian employees**

Ben Fredj S<sup>1</sup>, Chouchen A<sup>2</sup>, Ben Saad O<sup>3</sup>, Skhiri A<sup>1</sup>, Ghammam R<sup>1</sup>, Zammit N<sup>1</sup>, Akkari I<sup>4</sup>, Jammali D<sup>5</sup>, Harrabi I<sup>1</sup>, Elmaalel O<sup>2</sup>

1. Department of Preventive Medicine "LR19SP03", University Hospital Farhat Hached of Sousse, Faculty of Medicine of Sousse, University of Sousse, Sousse City, 4000, Tunisia;

2. Department of Occupational Medicine, "LR19SP03", University Hospital Farhat Hached of Sousse, Faculty of Medicine of Sousse, University of Sousse, Sousse City, 4000, Tunisia;

3. Faculty of Medicine of Sousse, University of Sousse, Tunisia, Sousse City, 4000, Tunisia;

4. Department of Gastrology, University Hospital Farhat Hached of Sousse, Faculty of Medicine of Sousse, University of Sousse, Sousse City, 4000, Tunisia;

5. Occupational Health Group, Sousse, Tunisia

**Introduction:** Digestive well-being is increasingly viewed as a cornerstone of overall health, with gastrointestinal symptoms often reflecting broader physical and psychological imbalances. Emerging evidence highlights a bidirectional interaction between the gut and the brain, suggesting that mental health disturbances

**Methods:** We conducted a cross-sectional study in September 2025 among employees of a company in Sousse. Data were collected using an Arabic self-administered questionnaire. The Izumo Scale Questionnaire (ISQ) is a self-administered questionnaire designed to assess the effects of abdominal symptoms on QOL. It includes 15 items in five domains with three items in each domain: heartburn (questions 1-3), gastralgia (questions 4-6), postprandial

**Results:** Among the 171 participants, 50.3% were males, with a mean age of 38.35 +/- 7.91 years. The median total digestive symptom score was 16 (IQR: 6-25). The score was significantly higher among women ( $p<0.000$ ), not married status ( $p=0.014$ ), non-smokers ( $p=0.026$ ), and those who had lower work seniority ( $p=0.09$ ). It was non-significantly higher among those who do not practice regular physical activity.

**Conclusion:** This study demonstrates a clear association between mental health disorders and digestive symptoms among Tunisian employees, emphasizing the interconnected nature of psychological and gastrointestinal well-being. These findings underscore the need for integrated workplace health strategies that address mental health, fatigue, and digestive comfort. Holistic and preventive approaches, such as stress reduction programs, promoting sleep hygiene, and early screening, may contribute to better overall employee health and productivity.

### **Abstract 155: Knowledge and Attitudes of Nursing Students Towards Occupational Therapy in Geriatric Care**

Slama I<sup>1</sup>, Ferjaoui E<sup>2</sup>

1. Faculty of Medicine of Sousse, University of Sousse, Tunisia

2. Higher Institute of Nursing Sciences of Sousse, Tunisia

**Introduction:** In the face of a rapidly aging global population, Occupational Therapy (OT) is recognized as an essential holistic approach for maintaining autonomy, quality of life (QoL), and preventing falls in older adults. However, the role of OT remains underdeveloped in some contexts, such as in Tunisia, and its scope is often unfamiliar to future healthcare professionals, hindering effective interprofessional collaboration in geriatric care. The objective of this study was to precisely describe the knowledge and attitudes of nursing students regarding the relevance and role of occupational therapy in geriatric patient management.

**Methods:** A quantitative, descriptive, and cross-sectional study was conducted among 150 third-year nursing students from various public and private institutions. Data were collected via an anonymous, self-administered, and expert-validated questionnaire.

**Results:** Participants expressed an overall favorable attitude towards Occupational Therapy, with 94% acknowledging its crucial role in promoting the autonomy and independence of older adults.

Nevertheless, the study revealed significant gaps in specific knowledge: Only 41.3% of respondents could correctly distinguish Occupational Therapy from Physical Therapy. Only one-third (33.3%) identified caregiver and family support as a common OT intervention. Only 8.7% of students reported feeling "very confident" in applying OT principles.

**Conclusion:** This study highlights a paradox: a very positive attitude but limited specific knowledge among future nurses regarding Occupational Therapy in geriatrics. Uncertainty about the professional role and the lack of practical training constitute a major barrier to optimal interprofessional collaboration. These Results underscore the urgent need for pedagogical reform in nursing sciences.

### **Abstract 156: Knowledge, Attitude and Practice of the Hospital Staff towards Smoking at Ibn El Jazzar University Hospital Kairouan-Tunisia 2022**

Meddeb T, Hannachi H, Ben Hassine D, Arfaoui E, Chebil D, Merzougui L

Department of Preventive and Community Medicine, Ibn al Jazzar University Hospital of Kairouan , Faculty of Medicine of Sousse, University of Sousse, Tunisia;

**Introduction:** Healthcare workers have an important role to play both as advisers, influencing smoking cessation and as role models. However, many of them continue to smoke. The aim is to examine knowledge, attitudes, and behaviors among healthcare workers towards smoking in the Teaching Hospital Ibn ElJazzar of Kairouan-Tunisia.

**Methods:** A cross-sectional descriptive study conducted during 12 months. Data were collected using a self-administered and anonymous questionnaire. A pre-study was made in January 2021 in three departments of the hospital in order to test the questionnaire. The statistical analysis was performed using the SPSS software.

**Results:** The prevalence of tobacco consumption among healthcare workers was 20% (67/336) with a significantly higher

rate among male compared to female health care professionals (95.5% vs 4.5%). All responders agreed that smoking is harmful to health. Pulmonary diseases were mentioned by 83.4% while cardiovascular diseases and cancers were mentioned by respectively 59 and 58 percent of study's population.

**Conclusion:** Smoking remains a public health problem among health professionals. A holistic approach, including a strengthening of laws against smoking, and provision of resources of tobacco cessation, is necessary to promote smoking cessation among the hospital staff.

### Abstract 157 : La Nouvelle Santé Publique : One Health, Éco-Health et Global Health. Approches et perspectives.

Belkhiria MT<sup>1</sup>, Chakib M<sup>2</sup>

1. Regional Health Directorate of Mahdia;
2. Regional Health Directorate of Nabeul

**Introduction:** Face à l'émergence de crises sanitaires mondiales, la nouvelle santé publique propose une approche intégrée et systémique, articulée autour de trois concepts complémentaires : One Health, Éco-Health et Global Health. L'objectif de cette communication est de présenter ces approches interdisciplinaires, leur évolution, leurs principes fondamentaux et leurs applications concrètes, dans le but de mieux comprendre les défis sanitaires contemporains et d'y répondre de manière durable et équitable.

**Méthode :** Cette étude repose sur une analyse documentaire et une revue de littérature scientifique, ainsi que sur l'examen de cas concrets et de programmes internationaux (ex : lutte contre la rage, la maladie de Lyme, la pandémie de COVID-19, programme COVAX). La démarche adoptée est transdisciplinaire et s'appuie sur des exemples illustrant l'interconnexion entre santé humaine, animale et environnementale, dans un cadre global et participatif.

**Résultats :** L'analyse met en évidence : L'efficacité de l'approche One Health dans la prévention des zoonoses, la lutte contre la résistance aux antibiotiques et la gestion des pandémies. La pertinence d'Éco-Health dans l'analyse des liens entre dégradation environnementale et santé, avec des Résultats : concrets dans la prévention de maladies comme Ebola ou la maladie de Lyme. L'impact de Global Health dans la réduction des inégalités sanitaires mondiales, à travers des initiatives telles que Roll Back Malaria et COVAX, soulignant la nécessité d'une coopération internationale.

**Conclusion :** La nouvelle santé publique appelle à une transformation des politiques de santé, plaçant l'interconnexion entre les êtres humains, les animaux et l'environnement au cœur des stratégies sanitaires.

### Abstract 158: Laparoscopic pyelolithotomy versus percutaneous nephrolithotomy in solitary renal pelvic stones >2 cm: A Prospective monocentric study of 66 cases

Lahouar R, Ben Khalifa B, Naouar S, Najjai MY, Gazzah W, Salem B

Urology department, Ibn Jazzar Hospital, Kairouan, University of Sousse, faculty of medicine of Sousse, Tunisia

**Introduction:** Percutaneous nephrolithotomy remains the gold standard procedure for the management of renal pelvic stones larger than 2 cm. However, in some developing countries, laparoscopic surgery is gaining wider application due to its accessibility and cost-effectiveness.

**Methods:** We conducted a prospective randomized and

analytical study in our urology department between January 2022 and December 2023. Patients with a single renal pelvic stone  $\geq 2$  cm were enrolled and randomized in a 1:2 ratio according to the surgical approach: the first arm (Group I) included patients treated with LPL (n=22) and the second (Group II) included those treated with PCNL.

**Results:** Baseline demographic characteristics were comparable between both groups. The mean operative time was significantly shorter in the PCNL group ( $p = 0.004$ ). No intraoperative complications occurred in each group. Postoperative analgesic requirements and bowel recovery time did not differ significantly between the groups. However, the length of hospital stay was significantly longer in the LPL group ( $p = 0.004$ ). The overall postoperative complication rate was similar (36.4% in both groups).

**Conclusion:** Laparoscopic pyelolithotomy is a safe and effective minimally invasive alternative to percutaneous nephrolithotomy for the management of large renal pelvic stones. It offers a higher stone-free rate, fewer hemorrhagic and infectious complications, and reduced need for auxiliary treatments. These advantages make LPL a valuable and cost-effective option, particularly in resource-limited settings such as developing countries.

### Abstract 159: Laser in the treatment of primary hyperhidrosis : A systematic review

Bessaad L, Ben Kahla M, Ghariani Fetoui N, Saad S, Mkhini H, Ghariani N, Denguezli M

Department of dermatology Farhat hached hospital, Faculty of Medicine of Sousse, University of Sousse, Tunisia

**Introduction:** Hyperhidrosis (HH) is a pathological condition characterized by excessive sweating that exceeds the physiological needs of thermoregulation. It can be classified as either primary (idiopathic) hyperhidrosis (PHH) or secondary hyperhidrosis (SHH).

**Methods:** A systematic review was conducted using PubMed and Google Scholar from inception through July 2025 to identify studies on laser treatments for PHH. Eligible articles were written in English and examined the use of lasers either as standalone therapies or as tools to enhance drug delivery. Studies on microwave devices, radiofrequency microneedling, micro-focused ultrasound, and conference abstracts without conclusive outcomes were excluded.

**Results:** Nineteen studies were included, investigating the use of Neodymium:yttrium-aluminum-garnet (Nd:YAG) lasers, diode lasers (DL), and fractional CO<sub>2</sub> lasers (FCL) for the treatment of PHH. Nd:YAG lasers (1064 nm, 1320 nm, 1440 nm) and DLs (924 nm, 975 nm, 980 nm, 1470 nm) have shown promising efficacy in the treatment of axillary PHH when applied subdermally, providing sustained outcomes with minimal side effects. When used externally, several sessions are required, along with the need for a long pulse duration.

**Conclusion:** In Conclusion, lasers represent a promising option for the treatment of PHH, offering unique mechanisms of action that can enhance patient outcomes. However, further studies are essential to better characterize the different parameters and treatment protocols for optimal Results. Additionally, exploring the potential benefits of combining laser therapy with conventional treatments, such as topical, intralesional, and even systemic therapies, will be crucial in developing comprehensive management strategies for patients suffering from PHH.

### Abstract 160: Learners' Perceptions of OSCE Implementation in Anesthesia and Intensive Care Training

Ben Hamada H<sup>1</sup>, Skhiri Z<sup>1</sup>, Melayah S<sup>1</sup>, Guellim S<sup>1</sup>, Gargouri F<sup>1</sup>, Amri A<sup>1</sup>, Mahjoub A<sup>1</sup>, Dahmane S<sup>2</sup>, Chaouch A<sup>1</sup>, Naija W<sup>1</sup>

1. Department of Anesthesia and Intensive Care Sahloul Teaching Hospital, Sousse, Tunisia;
2. Higher School of Health Sciences and Technologies of Monastir, Tunisia

**Introduction:** The Objective Structured Clinical Examination (OSCE) is widely recognized as a standard for assessing clinical skills in medical education. Understanding learners' perceptions helps refine both assessment strategies and teaching Methods.

**Methods:** A cross-sectional descriptive study was conducted in March 2024 among anesthesia and ICU students who underwent an OSCE at the end of the first semester. The OSCE comprised standardized patient (SP) and procedural stations, each lasting five minutes. Data were collected using a structured questionnaire with 35 items (single and multiple-choice questions), including a 5-point Likert scale.

**Results:** Seventy-two students completed the survey. Overall, 70% expressed satisfaction with the OSCE format. More than 80% found it relevant, objective, fair, and reliable, and considered it more practical than traditional assessment Methods. Nearly 96% found station instructions clear, and 72.2% considered the time allocation appropriate. Standardized patients were regarded by over 85% as effective for evaluating non-technical skills, while 50% found the equipment suitable for the tasks.

**Conclusion:** Students reported a positive perception of the OSCE, highlighting its realism, reliability, and effectiveness as a summative evaluation method in anesthesia and ICU training.

### Abstract 161: Learning about the use of morphine in acute pain management in Nursing students by simulation: a prospective observational study

Ketata S<sup>1</sup>, Ben Ayed M<sup>1</sup>, Keskes M<sup>1</sup>, Derbel R<sup>1</sup>, Mtibaa A<sup>1</sup>, Abdelmoula Z<sup>1</sup>, Gargouri M<sup>1</sup>, Ben Amar M<sup>2</sup>, Zouche I<sup>1</sup>, Cheikhrouhou H<sup>1</sup>

1. Simulation Department of Sfax Medical School and the anesthesia and clinical care department in Habib Bourguiba Hospital Of Sfax, Tunisia;
2. Simulation Department of Sfax Medical School, Tunisia

**Introduction:** Simulation-based education has emerged as a transformative approach in healthcare training, offering a secure and immersive environment for learning. This study aimed to evaluate the impact of simulation training on third-year nursing students' theoretical knowledge of acute pain

**Methods:** A prospective evaluative study was conducted at the Higher Institute of Nursing Sciences and the Simulation Center of Sfax Medical School. Participants attended a theoretical lecture on pain management followed by a simulation session. Pre- and post-training knowledge assessments using a 20-question multiple-choice test measured theoretical improvement. Satisfaction surveys assessed the learning experience.

**Results:** Our study lasted 3 days. 94 students were analyzed. The mean pre-test score was 10.35  $\pm$  3.131/20, and the post-test mean score was 14.26  $\pm$  2.933/20, indicating significant knowledge improvement ( $p < 0.001$ ). Key improvements were observed in questions related to morphine use, while pain evaluation knowledge showed limited progress. Over 97% of participants were satisfied with the simulation-based learning, highlighting its relevance and potential impact on professional practices.

**Conclusion:** Simulation training enhances nursing students' knowledge, particularly in complex domains like opioid management, while fostering critical thinking and confidence. This method bridges the gap between theory and clinical practice, preparing students for real-world healthcare challenges. The findings support the integration of simulation into nursing curricula to improve learning outcomes and patient care quality.

### Abstract 162: Learning difficulties in school-aged children: Implications for community Health and Education

Mahfoudhi A, Abdellawi M

Faculty of Medicine of Sousse, University of Sousse, Tunisia

**Introduction:** Learning difficulties, including dyslexia, dyscalculia, and dysgraphia, affect a significant number of school-aged children. These challenges not only impact academic achievement but also influence children's emotional well-being, self esteem and overall participation in school activities This study aims to explore the prevalence and impact of learning difficulties among primary school students and to highlight strategies for supporting affected children within the community health and educational framework

**Methods:** Observational data were collected from students aged 7-12 in primary schools. Academic performance, reading and calculation skills, and behavioral observations were recorded. Teachers' reports and parental feedback were also included to assess the broader impact on learning and social adaptation

**Results:** The study identified students struggling with reading, writing, and calculation tasks, which led to frustration, decreased motivation, and occasional absenteeism. Early identification and targeted interventions were shown to improve engagement and confidence among students.

**Conclusion:** Addressing learning difficulties requires an interdisciplinary approach that integrates educational support, psychological guidance, and community health initiatives. Promoting awareness among teachers and parents is essential for fostering an inclusive and supportive learning environment.

### Abstract 163: Leprosy in Tunisia: Clinical Polymorphism and Persistent Sequelae Despite Guideline-Based Treatment

Godcha R, Ghariani Fetoui N, Mkhinini H, Lahouel M, Saad S, Rouatbi J, Mokni S, Aounallah A, Ghariani N, Denguezli M

Dermatology Department, Farhat Hached University Hospital, Sousse, Tunisia

**Introduction:** Leprosy, a contagious infection caused by *Mycobacterium leprae*, remains a rare but present disease in Tunisia.

**Methods:** We report a series of 9 cases collected in our dermatology department between 1991 and 2025. Patients were studied according to clinical, histological, biological, and therapeutic criteria.

**Results:** Nine patients (5 women, 4 men), aged 35 to 69 years, were included. Only one patient had stayed in an endemic area (Libya), and 7 lived in rural regions. Two patients had a family history of leprosy, and general condition was impaired in 2 cases. The median duration of symptoms before diagnosis was 36 months (0-420). Cutaneous involvement included hypoesthetic erythematous-infiltrated plaques (n=8), nodules/

papulonodules (n=2), leonine facies (n=2), ulcerations (n=3), erythema nodosum leprosum (n=2), and thinning of eyelashes (n=2).

**Conclusion:** Leprosy remains a reality in Tunisian medical practice. The combination of cutaneous lesions—especially hypoesthetic ones—with peripheral neurological signs should systematically raise suspicion of the diagnosis, even in the absence of clear epidemiological exposure. Early adoption of complementary measures, including corticosteroid therapy and functional rehabilitation, is essential to improve patients' functional prognosis

#### Abstract 164: Leukocytosis at Admission: A Prospective Analysis of White Blood Cell Count as a Predictor of Postoperative Morbidity in Children

Oumayma Jarboui, Mohamed Zouari, Asma Issaoui, Manar Hbaieb, Mahdi Ben Dhaou, Riadh Mhiri

Service De Chirurgie Pédiatrique CHU Hédi Chaker Sfax, Tunisia

**Introduction:** Postoperative complications remain a major concern in pediatric emergency abdominal surgery. Simple laboratory markers such as white blood cell (WBC) count may help identify high-risk patients. This study assessed the role of leukocytosis in predicting postoperative complications following emergency abdominal surgery in children.

**Methods:** Between January 2022 and December 2024, a prospective cohort study was conducted at the Department of Pediatric Surgery, Hédi Chaker University Hospital, Sfax, Tunisia. All children under 14 years undergoing emergency abdominal surgery were enrolled. Admission laboratory data, including WBC count, were collected.

**Results:** A total of 582 children were included (median age: 9 years; 66.7% male). Postoperative complications occurred in 72 patients (12.4%). These complications included surgical site infection (n=35), adhesive small bowel obstruction (n=13), postoperative sepsis (n=8), intra-abdominal abscess (n=7), respiratory infections (n=4), urinary tract infections (n=3), and prolonged postoperative bleeding (n=2). Patients with complications had significantly higher WBC counts (median 16.7 vs. 14.1  $\times 10^9/L$ ,  $p < 0.001$ ). On multivariate analysis, WBC  $> 15 \times 10^9/L$  independently predicted morbidity (OR 2.80; 95% CI: 1.53-5.09;  $p = 0.001$ ). Subgroup analysis showed this association was particularly strong in acute appendicitis, where leukocytosis correlated with advanced disease and higher rates of postoperative sepsis and abscess formation.

**Conclusion:** Admission leukocytosis is a simple, accessible, and independent predictive factor of postoperative complications in pediatric emergency abdominal surgery. Incorporating WBC count into perioperative risk stratification may help identify high-risk patients and guide closer postoperative monitoring.

#### Abstract EP 165: Level of physical activity in patients with type 2 diabetes

Bradai S<sup>1</sup>, Ben Ayed H<sup>1</sup>, Ketata N<sup>1</sup>, Ben Hmida M<sup>1</sup>, Hajkacem F<sup>2</sup>, Maamri H<sup>3</sup>, Yaich S<sup>4</sup>

1. Preventive Medicine And Hygiene Department, Hédi Chaker Hospital Sfax; Tunisia
2. Endocrinology-Diabetology Department Hédi Chaker Hospital Sfax; Tunisia
3. Community And Epidemiology Department Hédi Chaker Hospital Sfax; Tunisia
4. Community And Epidemiology Department Hédi Chaker Hospital Sfax; Tunisia

**Introduction:** Diabetes mellitus is the predominant endocrine disorder worldwide. One approach for managing diabetes and avoiding associated complications includes regular moderate-intensity physical activity. This study investigated the physical activity level of patients with type 2 diabetes and to identify its associated factors.

**Methods:** A cross-sectional study, in Mars 2025 in Sfax governorate, Southern Tunisia was conducted including diabetes 2 patients consulting at the endocrinology-diabetology department and those at primary health care centers. Data were collected using The International Physical Activity Questionnaire IPAQ questionnaire. Physical activity levels were classified according to calculated Metabolic Equivalent of Task (MET) minutes per week.

**Results:** Among 285 patients included in the study 193 patients were females (67.7%) giving a male to female ratio of 0.47. There were 161 participants (56.5%) aged  $< 65$  years and 53 patients had an occupation (18.6%). Regular diabetes follow up was noted among 241 patients (84.6%). In our study, 148 patients had complicated diabetes (51.9%) and 123 patients had microangiopathies (43.2%). Physical activity was reported by 203 diabetic patients (71.2%).

**Conclusion:** The study identified substantial variation in physical activity levels among patients with type 2 diabetes. Higher levels of physical activity were significantly associated with sociodemographic and clinical factors.

#### Abstract 166: Limited Diagnostic Accuracy of Ultrasound in Differentiating Testicular Torsion from Torsion of the Testicular Appendix: Insights from a Prospective Pediatric Cohort Study

Tounsi MK<sup>1,2</sup>, Zouari M<sup>1,2</sup>, Belhajmansour M<sup>1,2</sup>, Jarboui O<sup>1,2</sup>, Ben Dhaou M<sup>1,2</sup>, Mhiri R<sup>1,2</sup>

1. Faculty of Medicine of Sfax, University of Sfax, Sfax, Tunisia;
2. Department of pediatric surgery, Hédi Chaker University Hospital, Sfax, Tunisia

**Introduction:** Differentiating testicular torsion (TT) from torsion of the testicular appendix (TTA) is challenging due to overlapping clinical presentations in acute scrotum cases. To evaluate the diagnostic accuracy ultrasound (US) features for distinguishing TT from TTA in children.

**Methods:** we carried out a prospective investigation from January 1, 2022 to July 31, 2024. We included all children under the age of 14 presenting with acute scrotum and having a final diagnosis of TT or TTA.

**Results:** Sixty-eight children, including 28 (41.2%) with TT and 40 (58.8%) with TTA, were enrolled. The median age of patients was 11 years. The median pain duration was 20 hours. Clinical examination showed testicular swelling in 54 patients and high-riding testis in 19 patients. Univariate and multivariate analysis comparing the two study groups identified pain duration  $< 24$  hours ( $p=0.021$ , Odds ratio=9.203 [1.387-61.048]), high-riding testis ( $p=0.002$ , Odds ratio=25.981 [3.348-201.631]), absent cremasteric reflex ( $p=0.039$ , Odds ratio= 9.936 [1.123-87.941]) and leukocytosis  $> 10 \times 10^9/L$  ( $p=0.002$ , Odds ratio= 37.536 [3.675-383.368]) as independent predictive factors for TT in children with acute scrotum. Scrotal ultrasound, performed on 10 of our children, showed no significant differences between the two groups with regard blood flow, twisted spermatic cord, or parenchymal echogenicity.

**Conclusion:** Our study showed that distinguishing TT from TTA in acute scrotum relies primarily on clinical evaluation, with ultrasound playing a limited role. These findings support urgent surgical exploration based on physical examination in suspected

TT cases.

### Abstract 167: Local Resistance Trends of *Haemophilus influenzae* in Respiratory Infections: A Retrospective Study

Mallek N, Maatouk Y, Azouzi F, Rebhi M, Zaibi O, Kahloul A, Miladi H, Marzouk M, Hannachi N

Microbiology Laboratory; Farhat Hached University Hospital; Sousse, Tunisia

**Introduction:** *Haemophilus influenzae* is a major bacterial pathogen responsible for a wide range of respiratory tract infections. Its ability to persist in the airways, form biofilms, and evade host immune responses contributes to its clinical relevance and the recurrent nature of many respiratory infections.

**Methods:** It was a 4-year retrospective descriptive study (2021-2024), conducted in the Microbiology Laboratory of the Farhat Hached University Hospital, including all *H. influenzae* strains, isolated from respiratory tract specimens. Bacterial identification was performed by conventional **Methods**. The antibiotic susceptibility testing was performed according to the guidelines of the CA-SFM/EUCAST.

**Results:** Out of 1125 positive respiratory cultures, 80 (7.11%) were positive for *H. influenzae*; from which, 72.5% were sputum, 15% were tracheal aspirations, and 12.5% were bronchial fluid specimens. A significant proportion were adults (86.25%). The number of respiratory specimens positive for *H. influenzae* showed a marked increase over the study period: 35% of the positive isolates were in 2024, 32.5% in 2023, and 26.5% in 2022, and only 6.5% in 2021.

Variable resistance rates were observed. The highest resistance level was noted for Amoxicillin (63.2%), followed by Amoxicillin-clavulanic acid (47.3%), Cefotaxime (9.5%), Ceftriaxone (10.7%), Imipenem (22.6%), Levofloxacin (20.9%), Ciprofloxacin (28.2%), Tetracycline (13.6%), Chloramphenicol (19.1%) and Trimethoprim-Sulfamethoxazole (44.7%).

**Conclusion:** This study highlights a progressive increase in *H. influenzae* respiratory isolates over four years, accompanied by notably high resistance rates to several commonly prescribed antibiotics. These findings underscore the need for continuous surveillance of antimicrobial resistance, careful selection of empiric therapy, and strengthened antimicrobial stewardship.

### Abstract 168: Long-Term Outcomes Following Transperitoneal Laparoscopic Repair of Vesicovaginal Fistula: Experience from Kairouan

Lahouar R<sup>1</sup>, Dridi S<sup>2</sup>, Ben Khalifa B<sup>1</sup>, Naouar S<sup>1</sup>, Gazzah W<sup>1</sup>, Braiek S<sup>1</sup>

1. Urology department, Ibn Jazzar Hospital, Kairouan, University of Sousse, faculty of medicine of Sousse, Tunisia;

2. University of Sousse, faculty of medicine of Sousse, Tunisia

**Introduction:** Vesicovaginal fistula (VVF) is a debilitating condition. Laparoscopic VVF repair has emerged as a valuable surgical option, associated with reduced morbidity, shorter recovery, and improved overall outcomes. However, in developing countries such as Tunisia, the adoption of laparoscopic approach is still evolving due to the striking lack of local data.

**Aims:** To describe the epidemiological and clinical profile of patients with VVF in the Kairouan region of Tunisia and to evaluate the feasibility, safety, and outcomes of laparoscopic repair in a resource-limited setting.

**Methods:** We conducted a retrospective descriptive

monocentric study of 28 patients aged  $\geq 18$  years diagnosed with primary supra-trigonal VVF and managed laparoscopically at the Urology Department of Ibn Jazzar Teaching Hospital, Kairouan, between January 2012 and December 2023. All patients underwent surgery at least eight weeks post-injury. Clinical data, fistula characteristics, peri operative surgical details, complications, and patient-reported outcomes (SSQ-8) were analyzed.

**Results:** Most patients were over 40 years (71.4%), married (82.1%), multiparous (75%), and from rural areas (57.1%). Urinary leakage was the predominant symptom (85.7%), with significant psychosocial impact in 71.4%. Contrary to global trends, iatrogenic causes were the leading etiology (78.6%). All fistulas were supra-trigonal and categorized as simple by Waaldijk, Goh, and Panzi classifications. Mean operative time was 170.3  $\pm$  45.7 minutes, with minimal blood loss ( $<50$  mL) and no major intraoperative complications.

**Conclusion:** Laparoscopic repair of primary supra trigonal VVF is feasible, safe, and effective in a resource-limited Tunisian setting, offering high success rates and favorable patient-reported outcomes.

### Abstract 169 : Interventions to control the dynamics of antimicrobial resistance from chickens through the environment (ENVIRE)

Mtibaa M<sup>1</sup>, Mahjoub A<sup>1</sup>, Azaiez S<sup>1</sup>, Dardouri M<sup>2</sup>, Bouhlel NE<sup>1</sup>, Jendoubi I<sup>1</sup>, Souguir M<sup>1</sup>, Madec JY<sup>3</sup>, Haenni M<sup>3</sup>, Mansour W<sup>1</sup>

1. Faculty of Medicine of Sousse, University of Sousse, Tunisia;

2. College of Nursing, Hail University, Saudi Arabia 3. Bacterial Resistance and Virulence Unit ANSES, Lyon, France

The excessive use of antibiotics in livestock is a major driver of the dissemination of resistance genes, not only within animal production systems but also across human and environmental contexts. In this perspective, the ENVIRE consortium was established, bringing together five countries (Tunisia, Germany, France, Lithuania, and Poland) around an integrated approach to limit antimicrobial resistance in poultry farming. In broiler production, antibiotic therapy promotes the spread of multidrug-resistant bacteria, highlighting the urgent need to develop sustainable alternatives such as manure composting, litter treatment, and vaccination. Tunisia plays a central role in this consortium through two major contributions: a team of bacteriologists is investigating the use of phytotherapy to reduce antibiotic application in the absence of declared infections, by exploiting the antibacterial properties of medicinal plants to limit colonization by resistant bacteria, while maintaining zootechnical performances comparable to those achieved with conventional antibiotic treatments. In parallel, a team of chemists is developing polymers with high affinity for antibiotics, aiming to minimize their release into the environment.

### Abstract 170: Low Birth Weight as a Predictor of 30-Day Mortality in Neonates Undergoing Major Gastrointestinal Surgery: A Prospective Cohort Study

Issaoui A, Zouari M, Belhajmansour M, Hbaieb M, Ben Dhaou M, Mhiri R

Department of pediatric surgery, Hedi Chaker University Hospital, Sfax, Tunisia

**Introduction:** Over the past five decades, advancements in neonatal healthcare have substantially reduced perioperative mortality in neonates. Despite these improvements, neonatal

surgical mortality rates remain disproportionately high in low- and middle-income countries, with some regions of Africa reporting mortality rates exceeding 40%.

**Aim:** The objective of this study was to evaluate the influence of birth weight on 30-day postoperative mortality in neonates undergoing major gastrointestinal (GI) surgical interventions.

**Methods:** After obtaining institutional review board approval, we conducted a prospective study in the department of pediatric surgery, Hedi Chaker Hospital, Sfax, Tunisia from January 2022 to June 2024. The study population included all neonates aged  $\leq 28$  days who underwent major GI surgical procedures during the specified period.

**Results:** A total of 81 neonates were included, of whom 21 (25.9%) died within 30 days post-surgery. The leading causes of death were peritonitis, neonatal nosocomial sepsis, and respiratory failure. The cohort comprised 46 males (56.8%) and 35 females (43.2%), with antenatal diagnoses made in 11 cases. Mean gestational age, birth weight, and Apgar score were  $36.5 \pm 3.2$  weeks,  $2.6 \pm 0.8$  kg, and  $9 \pm 1.1$ , respectively. Comorbidities were identified in 25.9% of the neonates, with congenital heart disease being the most common.

**Conclusion:** Low birth weight was a significant predictor of 30-day mortality following major neonatal GI surgery. These findings highlight the necessity for optimized perioperative strategies, meticulous postoperative care for high-risk neonates, and enhanced family counseling regarding prognosis.

### Abstract 171 : Artificial Intelligence-Based Prediction of Isocyanate-Induced Occupational Asthma in the Automotive Industry

Sridi C<sup>1</sup>, Kacem I<sup>2</sup>, Maoua M<sup>1</sup>

1. Department of Occupational Medicine, Sahloul University Hospital, Sousse, Tunisia
2. Occupational Medicine Department, Farhat Hached Teaching Hospital, Sousse, Tunisia

**Introduction:** Occupational asthma (OA) is one of the most prevalent occupational respiratory diseases and accounts for an estimated 10-25% of adult asthma cases. Among occupational sensitizers, isocyanates remain the leading chemical cause of OA worldwide, particularly in industrial sectors such as automotive manufacturing, polyurethane production, and spray painting. Despite preventive efforts, early identification of workers at risk remains challenging.

**Methods:** A case-control study will be conducted among workers exposed to isocyanates in an automobile steering wheel manufacturing company in Nadhour (Zaghouan, Tunisia) between 2010 and 2025. Cases will include workers diagnosed with isocyanate-induced OA according to the Tunisian consensus diagnostic criteria, based on clinical assessment and respiratory functional testing. Controls will be workers exposed to isocyanates in the same company but without allergic disease and with normal spirometry. Results. Statistical analysis will include descriptive and bivariate analyses to identify potential risk factors, followed by multivariate logistic regression to determine independent predictors of OA. In parallel, several machine learning algorithms will be implemented to develop predictive models, including decision trees (CART), Random Forest, Naïve Bayes, Support Vector Machines, and Extreme Gradient Boosting (XGBoost). Model performance will be evaluated using predictive indicators such as sensitivity, specificity, accuracy, and the area under the receiver operating characteristic curve (AUC).

**Expected impact:** Developing an AI-driven predictive model for occupational asthma could enable early identification of workers at high risk before clinical disease onset. Such a tool

could support occupational physicians in decision-making, optimize health surveillance strategies, and contribute to reducing the burden of occupational asthma.

### Abstract 172: Mathieu technique versus standard tubularised incised-plate urethroplasty in primary repair of distal hypospadias: A Single-Center Experience

Issaoui A, Belhaj Mansour M, Tounsi MK, Zouari M, Ben Dhaou M, Mhiri R

Department of pediatric surgery, Hedi Chaker Hospital, Sfax, Tunisia

**Introduction:** Various techniques have been described for the repair of distal hypospadias. The common purpose in most surgical techniques is to achieve a near-normal penis both functionally and cosmetically. We aimed to compare postoperative outcomes over a long-term follow-up of the Mathieu incised-plate (MIP) technique versus the standard tubularised incised-plate (TIP) technique for primary management of distal hypospadias.

**Methods:** A retrospective study in the pediatric surgery department of Hedi Chaker Hospital of Sfax between January 2000 and December 2016. There were 233 boys randomly selected and assigned to two groups MIP in 55 cases (19%) and TIP in 178 cases (61.4%). Demographic information, preoperative findings, and postoperative complications were collected from the two groups.

**Results:** There were no statistically significant differences between the subgroups in terms of age and length of the neo-urethra. The success rates of the surgical MIP and TIP techniques were 94% and 73%, respectively. Postoperative complications in the TIP group were 60 (33.7%) distal urethra-cutaneous fistula (UCF), 6 (3.4%) meatal stenosis, 10 (5.6%) wound dehiscence and 11 (6.2%) urethral strictures. In the MIP group, three patients (5.5%) had a UCF, two patients (1.1%) and one (0.6%) patient had flap necrosis. Moreover, 63% of the patients in the MIP group and 70% of the patients in the TIP group had acceptable final cosmetically aspect.

**Conclusion:** Although there have been some reports on the superiority of TIP, we found a superior levels with a slightly higher success rate for the MIP technique compared to TIP technique.

### Abstract 173: Measuring the Influence of Side Effect Expectations, Beliefs, and Incident Side Effects on the Risk for Drug Discontinuation Among Individuals Starting New Medications, a Cross-sectional Study

Alefan Q, Blackburn DF, Yao S, Taylor JG, Lix LM, Eurich DT, Choudhry NK

Jordan University of Science and Technology

**Introduction:** To measure the impact of beliefs, expectations, side effects, and their combined effects on the risk for medication nonpersistence.

**Methods:** Using a cross-sectional design, individuals from Saskatchewan, Canada who started a new antihypertensive, cholesterol-lowering, or antihyperglycemic medication were surveyed about risk factors for nonpersistence including: (a) beliefs measured by a composite score of three questions asking about the threat of the condition, importance of the drug, and harm of the drug; (b) incident side effects attributed to treatment; and (c) expectations for

**Results:** Among 3,029 respondents, 5.8% (n=177) reported nonpersistence within four months after starting the new drug. After adjustment for numerous covariates representing

sociodemographics, health-care providers, medication experiences and beliefs, both negative beliefs (OR: 7.26, 95%CI: 4.98-10.59) and incident side effects (OR: 8.00, 95%CI: 5.49-11.68) were associated with the highest odds of nonpersistence with no evidence of interaction. In contrast, expectations for side effects before starting treatment exhibited an important interaction with incident side effects following treatment initiation.

**Conclusion:** Expectations for side effects may be a previously unrecognized but important marker of the probability to persist with treatment. A high percentage of new medication users appeared unprepared for the possibility of side effects from their new medication making them less resilient if side effects occur.

### Abstract 174: Mental Health and Quality of Life among Healthcare Workers after the COVID-19 Pandemic

Gaddour A<sup>1,2</sup>, Jemmeli J<sup>1,2</sup>, Cherni K<sup>1,2</sup>, Bouhlel M<sup>1,2</sup>, Chouchane A<sup>3</sup>, Belhadj N<sup>4</sup>, Mansour M<sup>1,2</sup>, Kacem I<sup>3</sup>

1. Faculty of Medicine of Sousse; Tunisia
2. Occupational Medicine Department, Ibn El Jazzar teaching Hospital, Kairouan; Tunisia
3. Faculty of Medicine of Sousse, Occupational Medicine Department, Farhat Hached Teaching Hospital; Tunisia
4. Faculty of Medicine of Monastir, Tunisia

**Introduction:** Healthcare workers (HCWs) were severely affected by the COVID-19 pandemic, which exposed them to high workloads, emotional strain, and prolonged stress. Beyond the immediate crisis, growing evidence highlights persistent impacts on mental health and well-being.

**Methods:** A descriptive cross-sectional analytical study was conducted among healthcare workers at Ibn El Jazzar University hospital who had been infected with COVID-19 between January and August 2022. Data were collected through a telephone follow-up performed 12 to 24 months post-infection. Quality of life was evaluated using the SF-12 health survey, including both the Mental Component Summary (MCS) and the Physical Component Summary

**Results:** A total of 130 healthcare workers participated (mean age: 39 years; sex ratio = 0.23), with nurses representing the largest professional category (33%). The mean global quality-of-life score was 68+/-20.48. The mean mental component score (MCS) was 60.77+/-25.55, with 35.4% of participants showing impaired mental health (MCS <50), whereas the mean physical component score (PCS) was 72.58+/-24.94, with 16.2% showing physical impairment. Mental health scores were significantly lower than physical health scores ( $p < 10^{-3}$ ).

**Conclusion:** Healthcare workers continue to suffer from severe psychological distress and a lower quality of life one to two years after the pandemic. These findings highlight the urgent need for targeted screening, prevention, and psychological support initiatives for this vulnerable population. Promoting global collaboration in mental health is essential to share evidence-based practices, strengthen healthcare workforce resilience, and guide the development of long-term strategies to protect mental well-being in post-pandemic healthcare systems.

### Abstract 175: Microbiological Distribution and Notification Patterns of Multidrug-Resistant Bacteria at Sahloul University Hospital (Q2-2025)

Meherzi M<sup>1</sup>, Meddeb T<sup>1</sup>, Ghali H<sup>1</sup>, Hadded N<sup>1</sup>, Azouzi F<sup>2</sup>, Bhiri S<sup>1</sup>, Balhi S<sup>1</sup>, Ben Cheikh A<sup>1</sup>, Said Laatiri H<sup>1</sup>

1. Department of Preventive and Community Medicine, Sahloul

University Hospital, Tunisia

2. Microbiology Laboratory, Farhat Hached University Hospital, Sousse, Tunisia

**Introduction:** Multidrug-resistant bacteria (MDRB) represent a major challenge in healthcare settings. In line with the national notification procedure and infection prevention and control (IPC) efforts, this study describes all MDRB notifications recorded at Sahloul University Hospital during the second quarter of 2025.

**Methods:** A descriptive cross-sectional study was conducted from April to June 2025 at Sahloul Hospital. All MDRB notifications were reviewed, focusing on their origin, hospital departments involved, types of clinical samples, and bacterial species identified.

**Results:** A total of 30 MDRB notifications were recorded, 94% originating from the Microbiology Laboratory. Notifications were distributed across various departments, most frequently anesthesia-ICU, medical ICU, pediatrics, and general surgery. Forty MDRB were isolated from 33 clinical specimens. The most common sample types were urine cultures (24.3%), blood cultures (21.3%), distal protected samples (15.2%), and central venous catheter cultures (12.2%). Gram-negative bacteria predominated (80%).

**Conclusion:** MDRB notifications at Sahloul University Hospital during Q2-2025 highlight a predominance of Gram-negative bacteria and a wide distribution across hospital departments. Differences in bacterial profiles between units reflect local epidemiology and patient vulnerabilities. Strengthening microbiological surveillance and interdepartmental communication is essential to early detection and response.

### Abstract 176: Migration Intentions and Motivations among Anesthesia Students: A Cross-Sectional Survey

Houichi I, Ben Hamada H, Kahloul M, Ben Khedher H, Abida Y, Belbahri A, Aridhi W, Guellim S, Chaouch A, Naija W

Department of Anesthesia and Intensive Care Sahloul Teaching Hospital, Sousse, Tunisia

**Introduction:** Migration of healthcare professionals poses a significant challenge for health systems in developing countries, including Tunisia. Anesthesia and critical care students, as future key professionals, are increasingly attracted to opportunities abroad. This study aimed to assess the migration intentions of these students and identify factors influencing their decisions.

**Methods:** A cross-sectional analytical survey was conducted among anesthesia and critical care students during their internship at the Anesthesia and Critical Care Department of CHU Sahloul between January and April 2025. Data were collected using a standardized self-administered questionnaire.

**Results:** A total of 159 students participated, representing a response rate of 77.94%. The mean age was 23.1 +/- 1.56 years, with a sex ratio of 0.63. Migration plans were reported by 152 participants (96%), with 67% planning permanent departure and 103 students (64.8%) already undertaking preparatory steps. Germany was the main destination (47.2%). The main reasons for migration included low salary (74.1%), financial difficulties (74.6%), difficult working conditions (74.1%), and high workload (77.9%). The primary factor significantly associated with the intention to migrate was the choice of studies, particularly the desire to pursue a career abroad ( $p = 0.04$ ).

**Conclusion:** The very high rate of migration intentions among anesthesia and critical care students underscores the urgent need for targeted interventions to improve working conditions, remuneration, and career development opportunities in

Tunisia, aiming to retain young healthcare professionals and limit workforce loss to developed countries.

### Abstract 177: Motivation for clinical learning and perception of the clinical learning environment among undergraduate medical students

Ammar A, Douss N, Omri N, Mahjoub M

Hospital Hygiene department, University Hospital of Farhat Hached, University of Sousse (Tunisia)

**Introduction:** Clinical learning (CL) is essential in medical education, enabling the application of theoretical knowledge and development of clinical competencies. Student motivation is crucial for effective engagement during clerkships, yet their perception and motivation in this field remain insufficiently

**Methods:** A cross sectional study was conducted in the FMS, among undergraduate medical students from October to November 2022 using a self-administered questionnaire. We explored students' perception and motivation to CLE by using the Motivation section of the French version of the Motivated Strategies for Learning Questionnaire (MSLQ) validated in 2019 among Tunisian health sciences students.

**Results:** A total of 169 students were enrolled, with a female predominance and a mean age of 22.3 +/- 1.2 years. Only 58.3% approve that they can put into practice their theoretical knowledge. Overall motivation for clinical learning was moderate (mean score = 4.66 +/- 0.9). The subscale "self-efficacy for learning and performance" had the highest score of 4.95 +/- 1.17, while the subscale "control of beliefs" had the lowest score of 3.99 +/- 1.39.

**Conclusion:** Medical students demonstrated a moderate level of motivation for clinical learning, influenced by self-efficacy and perceptions of the CLE. Improving supervision quality, learning opportunities, and alignment between theory and practice may enhance motivation and engagement during clinical clerkships.

### Abstract 178: Multidrug-resistant bacterial bacteremia: an emerging threat in a Tunisian hospital

Maatouk Y, Mallek N, Azouzi F, Zaibi O, Kahloul A, Miladi H, Marzouk M, Hannachi N

Microbiology Laboratory; Farhat Hached University Hospital; Sousse, Tunisia

**Introduction:** Bacteremia is a severe, potentially fatal infection. Its clinical impact is particularly concerning as it is aggravated by the emergence and spread of multidrug-resistant bacteria (MDR). The aim of this study was to analyze the microbiological profile and resistance patterns of multidrug-resistant (MDR) bacteremia in patients at our Tunisian university hospital.

**Methods:** A 4-year retrospective descriptive study (2021-2024), focusing on bacteria isolated from blood cultures in the microbiology laboratory. The MDR bacteria studied included: 3rd generation cephalosporin-resistant Enterobacteriaceae (3GCRE) or carbapenem-resistant Enterobacteriaceae (CRE), ceftazidime-resistant *Pseudomonas aeruginosa* (PARC) or imipenem-resistant *Pseudomonas aeruginosa* (PARI), imipenem-resistant *Acinetobacter baumannii* (ABRI), as well as methicillin-resistant *Staphylococcus aureus* (MRSA). Antibiotic susceptibility testing was performed according to CA-SFM/EUCAST guidelines.

**Results:** Among the 2492 positive blood cultures, 396 isolates were multidrug-resistant, representing a proportion of 15.9%. The most common strains were 3GCRE (55.3%), followed by CRE

(17.4%), MRSA (11.9%), ABRI (10.1%), PARC (2.8%), and PARI (2.5%). The majority originated from the intensive care unit (31.3%), followed by the neonatology unit (23.2%). The 3GCRE strains often exhibited associated resistances, particularly to aminoglycosides (34.2%) and fluoroquinolones (22.7%). ABRI strains showed a high resistance level to almost all antibiotics, except colistin. All MRSA were sensitive to glycopeptides and linezolid. Regarding PARC, only one colistin-resistant strain was identified.

**Conclusion:** Multidrug-resistant bacterial bacteremia, largely dominated by 3GCRE, poses a serious public health problem due to growing resistance rates, rising costs, and increased mortality. Appropriate antibiotic use and strict adherence to hygiene practices remain key measures.

### Abstract 179: Musculoskeletal disorders and physical activity level among taxi drivers: a cross-sectional study in the region of Sousse

Achour M<sup>1</sup>, Jammeli I<sup>1,2</sup>, Gaddour A<sup>1,2</sup>, Moncer R<sup>1,3</sup>, Jemni S<sup>1,3</sup>

1. Faculty of Medicine of Sousse; University of Sousse, Tunisia

2. Occupational Medicine department- Ibn Al Jazzar Hospital, Kairouan, Tunisia

3. Physical and Rehabilitation department, Sahloul University Hospital of Sousse, Tunisia

**Introduction:** Musculoskeletal disorders (MSDs) are a major cause of physical disability worldwide, particularly affecting workers exposed to prolonged physical strain. Among these workers, taxi drivers are a high-risk group due to prolonged sitting, vehicle vibrations and stressful working conditions.

**Methods:** This is a cross-sectional analytical study conducted among taxi drivers in the Sousse region over a period of seven months (April 2024-October 2024). MSDs were assessed using a specific version of the Nordic questionnaire, and physical activity levels were assessed using a short version of the IPAQ questionnaire.

**Results:** A total of 61 taxi drivers were included in the study. The average age was 47.59 +/- 10 years. Approximately 45% of the study population had more than 20 years of professional experience and more than half of the participants did not have a weekly rest day. The lifetime prevalence of MSDs was 68.9% and 59% during the previous 12 months.

**Conclusion:** The Results of this study have shown a high prevalence of MSDs among taxi drivers, who represent a professional category particularly exposed to MSDs due to prolonged exposure to biomechanical and psychosocial risk factors. The functional impact of MSDs can affect not only their professional lives but also their physical and mental health, thereby altering their quality of life. Preventive measures must be put in place for this group of workers.

### Abstract 180: Neurobrucellosis in Tunisia: Retrospective Analysis of Six Treated Cases

Chakroun H<sup>1,2</sup>, Ben Ticha M<sup>2,3</sup>, Boudriga H<sup>1,2</sup>, Sakly H<sup>1,2</sup>, Ben Selma M<sup>2</sup>, Rouis S<sup>1,2</sup>, Knani H<sup>2,3</sup>, Abid Maha<sup>2,3</sup>, Bellazreg F<sup>2,3,2</sup>, Hachfi W<sup>2,3</sup>

1. Infectious Diseases Department, Ibn Al Jazzar University Hospital, Kairouan, Tunisia

2. Faculty of Medicine of Sousse, University of Sousse, Sousse, Tunisia

3. Department of Infectious Diseases, Farhat Hached University Hospital, Sousse, Tunisia

**Introduction:** Brucellosis is one of the most widespread zoonotic diseases globally, particularly endemic in the Mediterranean region. Although rare, neurobrucellosis poses a significant

diagnostic and therapeutic challenge due to its diverse clinical presentation and the difficulty of early diagnosis.

**Methods:** This retrospective study, conducted from January 2015 to March 2024, included six patients diagnosed with neurobrucellosis and hospitalized in the Infectious Diseases Department of Farhat Hached hospital, Sousse. We analyzed clinical features and therapeutic strategies, focusing on antibiotic regimens and their outcomes.

**Results:** The mean age of the patients was 40 years, with a male predominance (4M/2F). Identified risk factors included raw milk consumption and cattle farming in three cases. One patient was a veterinarian. The most common clinical presentation was meningoencephalitis (3/6), followed by isolated encephalitis, meningomyeloradiculitis, and meningoradiculitis. Cranial nerve involvement was observed in three patients, leading to auditory impairment in two cases. One patient had multifocal brucellosis with both neurological and osteoarticular involvement.

**Conclusion:** Neurobrucellosis often presents as a subacute or chronic lymphocytic meningitis. Its diagnosis relies on a combination of clinical, biological, and radiological findings. Early and prolonged antibiotic therapy, often combined with corticosteroids, is crucial to reducing severe neurological sequelae.

### Abstract 181: Nursing Students' Knowledge, Attitude and Practices on Herbal Medicine

Ghali H<sup>1</sup>, Moussi S<sup>2</sup>, Kammoun M<sup>2</sup>, Sakly Y<sup>2</sup>

1. Preventive and Community Medicine Department, Sahloul University Hospital of Sousse, Faculty of Medicine of Sousse, University of Sousse, Tunisia

2. Higher Institute of Nursing Sciences of Sousse, Tunisia

**Introduction:** Since the dawn of mankind, we have made good use of the medicinal properties of the plants we found in the wild. Herbal Medicine, despite the advances we made, still serves a complementary role in addition to contemporary medicine. It can be used to prevent and treat diseases or to control the symptoms. In Tunisia, we have studied the use of herbal medicine with patients, however, we have yet to interrogate the knowledge, attitudes and practices of student nurses concerning this practice.

**Methods:** We conducted a quantitative cross-sectional study on the students at the Higher School of Nursing of Sousse during the months of December 2023, January 2024, and February 2024. We used an anonymous electronic survey with questions inspired by the literature, disseminated using student group chats on Facebook Messenger.

**Results:** The main Results of our study show that 63.5% of students know the correct definition of herbal medicine. The herbal remedies most familiar to students were green tea (63.1%) and Aloe Vera (57.1%). The pathologies most frequently treated by herbal therapy, according to students, were digestive (74.9%) and rheumatological (55.7%). Nearly 2/3 of students (60.1%) say they rarely advise the use of phytotherapy. More than half of students (55.2%) believe that herbal medicine represents a field of science.

**Conclusion:** We recommend that nursing schools integrate alternative therapies such as herbal therapy as part of their programs to make sure students are capable of recognising what works, what doesn't, and to have a better understanding of these practices.

### Abstract 182: Nursing Students' Perception of Active Learning Methods in Theoretical Teaching

Ben Hamada H, Guellim S, Houichi I, Ben Khedher H, Chrigui R, Naouar N, Ajmi M, Belaid M, Kahloul M, Naija W

Department of anesthesia and intensive care, Sahloul University Hospital Faculty of Medicine of Sousse, University of Sousse, Sousse, Tunisia

**Introduction:** Over the past decades, major reforms have taken place in university programs. The aim of these reforms was to acquire or strengthen general skills such as communication, problem-solving, and ethical reasoning, as well as subject-specific competencies related to the studied subject. Active learning pedagogy, which places the learner at the center of the learning process, allows these objectives to be achieved.

**Methods:** A descriptive cross-sectional study was conducted in October 2024 among second-year nursing students at ISSIS who received theoretical instruction in the subject "Nursing care in critical situations" through active learning **Methods** (TBL, PBL, ARC, simulation, and educational workshops) during the 2023-2024 academic year. Data were collected using a self-administered questionnaire developed based on the literature. Confidentiality and anonymity were respected.

**Results:** A total of 45 students responded to the questionnaire, representing a participation rate of 45.4%. The average age of the students was 21.3 +/- 0.88 years. The majority was female (65.1%). Overall, 76.2% of students were satisfied with the teaching provided. The most preferred active learning method among students was the "educational workshop" (65.1%), followed by "simulation" (56.1%). Moreover, 45.4% of students wished to extend these learning **Methods** to other subjects.

**Conclusion:** Learner engagement in their learning process is the main reason for teachers to adopt active teaching **Methods**. However, shifting from a traditional classroom model, where students are passive, to one where learners are active requires significant adaptation from both instructors and students, who may show resistance to the proposed changes.

### Abstract 183: Oncosexuality in Geriatric Cancer Survivors in the MENA Region: A Systematic Review

Loghmari A, Ben Abdallah W, Ben Jannet A, Bouassida K, Hmida W, Jaidane M

Urology Department, Sahloul University Hospital, Faculty of Medicine of Sousse, University of Sousse, Sousse, Tunisia

**Introduction:** Sexual health is a fundamental dimension of quality of life in oncology but remains largely neglected in the Middle East and North Africa (MENA), particularly among older adults.

**Methods:** A systematic search of PubMed, SciSpace, and regional databases was conducted for studies published between 2011 and 2026, in accordance with PRISMA 2020 guidelines. Eligible studies included quantitative, qualitative, and mixed-Methods research focusing on cancer survivors in MENA settings and reporting validated measures of sexual function or related psychosocial outcomes. Data extraction and methodological quality appraisal were performed using standardized tools.

**Results:** Eighteen studies met the inclusion criteria. The prevalence of sexual dysfunction ranged from 70% to 85% among geriatric cancer survivors. Major biological determinants included radical surgery, hormone therapy, and chemotherapy. Psychological factors, particularly depression, were significant independent predictors of impaired sexual function. Social and cultural barriers-such as gender-discordant care, limited provider training, and the cultural concept of "ayb" (shame)-substantially limited communication and care-seeking behaviors.

**Conclusion:** Oncosexuality in the geriatric MENA population is characterized by a high burden of dysfunction and low service utilization, driven by intertwined biological, psychological, and sociocultural determinants. There is an urgent need for culturally sensitive, multidisciplinary, and provider-initiated sexual health protocols, as well as rigorous interventional research to address this critical gap in oncology care.

#### Abstract 184: Organisational Commitment and Psychosocial Constraints among Emergency Healthcare Professionals at a University Hospital Center, Tunisia, 2023

Ben Cheikh A<sup>1</sup>, Ghali H<sup>1</sup>, Gharbi M<sup>2</sup>, Hmili Y<sup>1</sup>, Sakka K<sup>1</sup>, Haddad N<sup>1</sup>, Balhi S<sup>1</sup>, Bhiri S<sup>1</sup>, Said Laatiri H<sup>1</sup>

1. Department of Preventive and Community Medicine, Sahloul University Hospital, Faculty of Medicine of Sousse, University of Sousse;
2. Higher School of Health Sciences and Techniques, University of Sousse

**Introduction:** Psychosocial constraints including patient aggression, high occupational stress, and lack of recognition, contribute to burnout and reduced work engagement among healthcare professionals, particularly in emergency departments. The COVID-19 pandemic further exacerbated these challenges, underscoring the need for strengthened

**Methods:** We conducted a cross-sectional study among medical and paramedical healthcare professionals working in the emergency departments of University Hospital center in Tunisia. Data were collected using a pre-tested and self-administered questionnaire informed by the literature. Organisational commitment was measured using the validated French version of the Allen and Meyer Organisational Commitment Scale.

**Results:** The overall response rate was 82.38% (n=173). The mean age of respondents was 33.42 years (SD=9.04), with a female predominance (67.1%). Healthcare professionals exhibited moderate levels of commitment across the three dimensions. Mean scores were 2;90 (SD=0.42) for affective commitment, 2.92 (SD=0.58) for continuance commitment, and 2.88 (SD=0.65) for normative commitment. The mean effort score was 19.52 (SD=5.33) and the mean reward score was 27.53 (SD=8.44). Effort-reward imbalance (ratio >1) was observed in 42.2% of participants.

**Conclusion:** This study highlights critical challenges within the emergency departments of Charles Nicolle Hospital, including moderate organisational commitment among healthcare professionals. Effort-reward imbalance contributed to a stressful work environment characterised by burnout and growing dissatisfaction. Targeted interventions to improve working conditions, support healthcare professionals, and address the structural determinants of disengagement are essential to strengthen care quality and ensure the sustainability and effectiveness of the health system.

#### Abstract 185: Pancreatic hydatid cyst: Report of four cases

Bouazzi A, Farhat W, Lagha S, Azri M, Harrabi F, Mizouni A, Ben Mabrouk M

Department of General Surgery, Sahloul University Hospital, Medicine Faculty of Sousse, University of Sousse, Sousse 4002, Tunisia

**Introduction:** Pancreatic involvement in hydatid disease is exceptional, even in endemic regions, and poses significant diagnostic challenges.

**Methods:** We retrospectively analyzed four patients treated for

pancreatic hydatid cysts.

**Results:** The series included two men and two women aged 28-48 years. Clinical presentation consisted of acute pancreatitis in two patients and incidental discovery of cystic pancreatic lesions (head in one case, tail in one case) in the remaining patients. Hydatid serology was positive in two cases. Surgical management included one pancreaticoduodenectomy, one distal pancreatectomy, and two left splenopancreatectomies. Postoperative outcomes were favorable in all patients, with no mortality and no recurrence during follow-up.

**Conclusion:** Pancreatic hydatid cyst is a rare entity that should be considered in the differential diagnosis of cystic pancreatic lesions in endemic areas. Surgical resection remains the definitive treatment.

#### Abstract 186: Undocumented Migration Pathways and the Health of Tunisian Returnees: A Qualitative Study

Touzi R<sup>1</sup>, Garnaoui W<sup>2</sup>, Ben Dhiab M<sup>1,3</sup>

1. University of Sousse, Faculty of Medicine of Sousse, Sousse, Tunisia
2. University of Sousse, Sousse, Tunisia
3. Department of forensic medicine, Farhat Hached university hospital, Sousse, Tunisia.

**Introduction:** Undocumented migration represents a major public health issue. Migrants in irregular situations are exposed to multiple health risks throughout their migration journey. However, the health of migrants across the entire migration continuum from pre-migration to post-return remains underexplored, particularly in the Tunisian context.

**Aim:** This study aims to understand the lived experiences of Tunisian returnees and to analyze the impact of undocumented migration pathways on their health.

**Methods:** This is an exploratory qualitative study based on an inductive approach. Individual semi-structured interviews were conducted with 18 Tunisian returnees, recruited using a combination of purposive and snowball sampling techniques. Data were collected in the Tunisian dialect and analyzed using reflexive thematic analysis inspired by Braun and Clarke.

**Results:** The analysis identified four main themes reflecting the different stages of the migration journey: (1) pre-migration, (2) migration phase, (3) return process, and (4) remigration intentions.

**Conclusion:** The findings of this study highlight the need to develop comprehensive and tailored support strategies for Tunisian returnees in order to improve their health and facilitate their social and economic reintegration.

#### Abstract 187: Parents' Knowledge of the Tunisian Vaccination Schedule

Bradai S<sup>1</sup>, Ben Hmida M<sup>1</sup>, Ben Amor F<sup>2</sup>, Ben Ayed H<sup>1</sup>, Ketata N<sup>3</sup>, Maamri H<sup>3</sup>, Yaich S<sup>3</sup>

1. Department of preventive medicine and hospital hygiene Hedi Chaker University Hospital;
2. Higher School of Health Sciences and Techniques of Sfax;
3. Department of community medicine and epidemiology university hospital Hédi Chaker Sfax

**Introduction:** Vaccination is an essential tool for the prevention of infectious diseases. Parents' knowledge directly influences their adherence to vaccination programs and their decisions regarding their children's health. Assessing this knowledge helps identify gaps and effectively guide awareness-raising actions.

**Methods:** This was a cross-sectional observational study

conducted among parents of children who attended primary health care centers in Mahdia for vaccination between 2 and 18 months of age, from May 2024 to July 2024. Data were collected using a self-administered questionnaire.

**Results:** A total of 427 participants were included in the study. The mean age of parents was 30.6 years ( $\pm$  4.76 years). The median age of infants was 4 months, with an interquartile range (IQR) of [3-6 months]. More than half of the population (58%) were girls. Parents' main sources of information on vaccination were nurses during vaccination sessions in 33.5% of cases ( $n$  = 143) and physicians in 30% of cases.

**Conclusion:** Parental knowledge was insufficient in certain areas of vaccination. It is therefore crucial to strengthen information and education efforts in order to improve adherence to the vaccination schedule.

### Abstract 188: Part time job and academic performance among medical students

Kacem I<sup>1,2</sup>, Aloui A<sup>1,2</sup>, Ajmi M<sup>3,2</sup>, Bouhoula M<sup>1,2</sup>, Loghmani A<sup>4,2</sup>, Salanh M<sup>1</sup>, Kahloul M<sup>3,2</sup>, Knani L<sup>2</sup>

1. Occupational Medicine Department, Farhat Hached Teaching Hospital, Sousse, Tunisia;
2. University of Sousse, Faculty of Medicine of Sousse, 4000 Sousse, Tunisia;
3. Anesthesia and Intensive Care Department, Sahloul University Hospital, Sousse, Tunisia;
4. Urology Department, Sahloul University Hospital, Sousse, Tunisia

**Introduction:** Medical education is characterized by its intensity, prolonged duration, and high cognitive and emotional demands, often requiring significant financial resources. In low- and middle-income countries like Tunisia, where socioeconomic support for students is limited, and many medical students engage in part-time employment to meet financial needs. While this practice is common, concerns persist regarding its potential negative impact on academic performance.

**Methods:** A cross-sectional analytical study was conducted among 299 medical students from the first and second cycles. Data were collected via an online self-administered questionnaire. Part-time work status was defined as <48 working hours/week, and academic performance using an adapted 8-item scale from the Motivated Strategies for Learning Questionnaire (MSLQ). Academic engagement indicators included preparation, attention, participation, effort in difficult tasks, and motivation.

**Results:** Of the 299 participants, 22.7% ( $n$  = 68) engaged in part-time work, averaging 14.3  $\pm$  12.7 hours per week. Part-time workers reported significantly higher academic engagement: they were more likely to prepare thoroughly for all subjects (23.5% vs. 10.8%,  $p$  = 0.023), participate actively in teaching (51.4% vs. 32.1%,  $p$  = 0.008), and exert greater effort on challenging assignments (92.7% vs. 73.5%,  $p$  = 0.022). They also showed a trend toward better attention during discussions ( $p$  = 0.05).

**Conclusion:** These findings suggest that moderate part-time work may foster responsibility and time-management skills without compromising but potentially even supporting academic success.

### Abstract 189: Pediatric Autoeczematization: Clinical Spectrum and Triggers

Godcha R, Ghariani Fetoui N, Mkhinini H, Lahouel M, Saad S, Rouatbi J, Mokni S, Aounallah A, Ghariani N, Denguezli M

Dermatology Department, Farhat Hached University Hospital, Sousse,

Tunisia

**Introduction:** Abstract An id reaction (autoeczematization) is a disseminated pruritic eruption occurring at sites distant from a primary cutaneous focus, commonly triggered by dermatophytoses or other infections in children.

**Methods:** We report seven cases of id (autoeczematization) reactions observed in pediatric patients.

**Results:** The group included four girls and three boys, aged between 6 and 12 years (mean age: 8 years). Six patients developed id reactions secondary to dermatophytic infections, most commonly due to *Microsporum canis* (five cases) and *Trichophyton violaceum* (one case), while one patient presented with pediculosis as the triggering condition. Lesions appeared at the time of diagnosis in five patients and after initiation of antifungal therapy in one patient. Clinically, the id reactions manifested as pustular eruptions (four cases), erythematous pruritic papules (one case), or vesicular lesions (two cases). The eruptions were distributed mainly on the neck (five cases), face (three cases), trunk (two cases), and genital area (one case). Microbiological and mycological cultures from all id lesions were negative, supporting their noninfectious nature. All patients showed favorable outcomes with appropriate systemic therapy-antifungal treatment for dermatophytoses and antiparasitic treatment for pediculosis-along with supportive topical care.

**Conclusion:** Our observations emphasize that id reactions, although uncommon, should be considered in children presenting with sudden, disseminated, pruritic eruptions in the context of localized dermatophytosis or pediculosis. Awareness of this phenomenon allows appropriate management and helps avoid misdiagnosis with bacterial superinfection or drug eruption.

### Abstract 190: Perceived Stress and Quality of Care at University Hospital Center, Tunisia, 2023

Ben Cheikh A<sup>1</sup>, Ghali H<sup>1</sup>, Belhi D<sup>2</sup>, Sakka K<sup>1</sup>, Hmili Y<sup>1</sup>, Balhi S<sup>1</sup>, Haddad N<sup>1</sup>, Bhiri S<sup>1</sup>, Said Laatiri H<sup>1</sup>

1. Department of Preventive and Community Medicine, Sahloul University Hospital, Faculty of Medicine of Sousse, University of Sousse, Tunisia
2. Higher School of Health Sciences and Techniques, University of Sousse, Tunisia

**Introduction:** Occupational stress adversely affects the psychological and physical health of healthcare professionals and may influence the quality of care delivered. This study aimed to describe perceived stress levels and perceived quality of care among paramedical staff, and to

**Methods:** A cross-sectional study was conducted among paramedical staff at a University Hospital Center in 2023. Nurses and health technicians working in a clinical setting who had provided direct patient care, as well as staff members present at the time of the study were included. Data were collected using a self-administered questionnaire including sociodemographic characteristics and three validated instruments: the Perceived Stress Scale (PSS),

**Results:** The overall response rate was 81.6% ( $n$ =316). According to the PSS, 57% ( $n$ =180) of paramedical staff reported high stress levels. Based on the VPS-I, 61.5% ( $n$ =176) of participants with moderate to high stress reported delivering moderate to high-quality care. According to the DCSSAQ, 76.7% ( $n$ =23) of staff with low stress levels reported moderate to high-quality care.

**Conclusion:** Although stress is generally perceived as detrimental, under certain conditions it may exert a positive effect on the quality of care delivered by paramedical staff. In this study, stress was significantly associated with perceived

quality of care, with higher stress levels correlating with improved care quality. These findings underscore the need to further investigate other factors contributing to increased stress levels among paramedical personnel.

### Abstract 191: Perception of Healthcare Professionals on the Implementation of Medical Hypnosis in Postoperative Surgical Care.

Kacem I<sup>1,2</sup>, Aloui A<sup>1,2</sup>, Ajmi M<sup>3,2</sup>, Bouhoula M<sup>1,2</sup>, Kahloul M<sup>3,2</sup>, Naija W<sup>3,2</sup>

1. Occupational Medicine Department, Farhat Hached Teaching Hospital, Sousse, Tunisia;
2. University of Sousse, Faculty of Medicine of Sousse, 4000 Sousse, Tunisia;
3. Anesthesia and Intensive Care Department, Sahloul University Hospital, Sousse, Tunisia

**Introduction:** Medical hypnosis has demonstrated efficacy in diverse clinical fields, particularly in anesthesia, pain management, and perioperative care. While its benefits including reduced anxiety, decreased analgesic use, and enhanced patient comfort are increasingly recognized, its integration into hospital settings remains limited.

**Methods:** A descriptive cross-sectional survey was conducted between May and June 2025 among paramedical staff working in surgical and anesthesia-reanimation units at Farhat Hached and Sahloul University Hospitals (Sousse) and Fattouma Bourguiba University Hospital (Monastir).

**Results:** The majority of participants (94.6%) reported having heard of hypnosis, primarily through social media (76.2%). Most acknowledged its effectiveness in reducing pain and anxiety (84.8%) and improving patient comfort. However, none had received formal training in hypnosis. Although 39.1% supported its integration into patient care, only 17.1% reported that hypnosis was actually practiced in their units, mainly by physicians for pain and anxiety management.

**Conclusion:** Healthcare professionals in surgical settings recognize the potential benefits of medical hypnosis but face significant barriers particularly the absence of formal training and limited institutional support that hinder its routine use. These findings highlight the need for structured educational programs, evidence-based guidelines, and multidisciplinary collaboration to integrate hypnosis as a complementary tool in postoperative care.

### Abstract 192: Perioperative antibiotic prophylaxis: Knowledge, attitudes, and Practices among Senior Anesthesia-Reanimation Technicians

Guellim S<sup>1</sup>, Soussi M<sup>1</sup>, Ben Hamada H<sup>1</sup>, Hajji R<sup>1</sup>, Saihi MO<sup>2</sup>, Chrigui R<sup>1</sup>, Naija W<sup>1</sup>

1. University of Sousse, Faculty of Medicine of Sousse, Sahloul hospital, Department of Anesthesia and Reanimation, 4054, Sousse, Tunisia;
2. Sahloul hospital, Departement of Anesthesia and Reanimation, 4054, Sousse, Tunisia

**Introduction:** Perioperative antibiotic prophylaxis (ATBp) in preventing surgical site infections, with most guidelines recommending administration within 30 minutes before incision. The 2018 SFAR guidelines also advise spacing the administration of ATBp and induction by 5-10 minutes to distinguish possible allergic reactions.

**Methods:** A descriptive cross-sectional study was conducted from February to March 2023 among SARTs from two university hospitals. Data were collected using a self-administered KAP questionnaire designed to evaluate sociodemographic and

professional characteristics, theoretical training, knowledge of commonly used antibiotic molecules, time of ATBp relative to general and spinal anesthesia, and awareness of adverse reactions such as allergic responses. Data were descriptively analyzed to assess trends and discrepancies between knowledge and practice. **Results & Discussion** The participation rate was 79.4% (n=81). The mean age of the participants was 47.3 +/- 9.08 years.

**Conclusion:** Uncertainty persists among SARTs about the precise timing of perioperative antibiotic prophylaxis relative to anesthesia induction. Despite satisfactory theoretical knowledge, practical adherence remains inconsistent. These findings emphasize the need for targeted educational interventions and well-designed clinical studies to clarify optimal administration timing and reinforce standardized practice between anesthesia teams.

### Abstract 193: Perspectives of Public Sector Physicians toward Telemedicine in the Governorate of Sfax

Bradai S<sup>1</sup>, Ben Ayed H<sup>1</sup>, Trigui A<sup>2</sup>, Ketata N<sup>2</sup>, Ben Hmida M<sup>2</sup>, Maamri H<sup>3</sup>, Yaich S<sup>3</sup>

1. Department of preventive medicine and hospital hygiene university hospital Hédi Chaker Sfax;
2. Department of preventive medicine and hospital hygiene university hospital Hédi Chaker Sfax;
3. Department of community medicine and epidemiology university hospital Hedi Chaker Sfax

**Introduction:** Telemedicine has emerged as a crucial field in the delivery of healthcare services. Its adoption has been steadily increasing in many countries, including Tunisia. The aim of this study was to explore the perspectives of public sector physicians in Sfax toward telemedicine and to identify the associated factors.

**Methods:** This was a cross-sectional study conducted among physicians working in public healthcare facilities (university hospitals, regional hospitals, and primary healthcare centers) in both rural and urban areas of the governorate of Sfax, over a period from January to April 2023. A global perspective score was calculated, integrating both the willingness to implement telemedicine and the perceived barriers to its implementation.

**Results:** Among the 604 participants, the sex ratio was 0.4. The median age was 29 years (interquartile range [IQR] = 26-42 years). Regarding workplace location, 502 physicians (83.1%) practiced in urban areas, and 578 physicians (95.7%) had computer skills. In terms of specialty, 425 physicians (82.2%) practiced a medical specialty, and 170 physicians (28.1%) had a private office. According to professional rank, 17.1% of physicians were senior doctors (n = 104).

**Conclusion:** Public sector physicians in Sfax were receptive to telemedicine and considered its future adoption. Continuous training initiatives and the promotion of a supportive organizational culture are recommended to enhance access to healthcare services in Tunisia.

### Abstract 194: Pneumocystosis in Central Tunisia : A 27 Year Review

Zaabar W<sup>1</sup>, Yaacoub A<sup>1,2</sup>, Salah O<sup>1</sup>, Ben Halima N<sup>1,2</sup>, Fathallah A<sup>1,2</sup>

1. Parasitology-Mycology Department, Farhat Hached University Hospital, Sousse, Tunisia;
2. University of Sousse, Faculty of Medicine of Sousse, 4000, Sousse, Tunisia

**Introduction:** Pneumocystosis due to *Pneumocystis jirovecii*

is a severe opportunistic infection in immunocompromised patients. The aim of our study was to determine the epidemiological and mycological profile of pneumocystosis in central Tunisia.

**Methods:** This was a retrospective study including 804 patients referred to the Parasitology-Mycology laboratory of Farhat Hached Hospital in Sousse for suspected pneumocystosis over a 27-year period (January 1998-August 2025). Detection of *Pneumocystis jirovecii* was performed by microscopic examination after Gomori-Grocott and May-Grünwald-Giemsa staining and/or by PCR (conventional PCR or real-time PCR).

**Results:** Pneumocystosis was confirmed in 65 out of 804 suspected patients, corresponding to a prevalence of 8.08%. Our study included 43 men and 22 women (M/F sex ratio = 1.95), with ages ranging from 4 months to 91 years and a mean age of 37.79 years. The most represented age group was 34-43 years. Seven children, including three infants, were affected by pneumocystosis. Patients were infected with HIV in 77.34% of cases. Respiratory samples mainly consisted of bronchoalveolar lavage fluids (48.7%) and sputum samples (33.7%). The diagnosis was established by direct microscopic examination after staining in 27.5% of cases, by PCR in 53.6% of cases, and by both **Methods** in 18.9% of cases.

**Conclusion:** Our study showed that the number of pneumocystosis cases has increased in recent years, due to a higher prevalence of HIV infection and easier access to PCR, particularly real-time PCR. Moreover, pneumocystosis remains more frequent in the setting of HIV infection.

#### Abstract 195: Polymerase Chain Reaction for the Diagnosis of Tuberculous Spondylodiscitis: Experience from Farhat Hached University Hospital, Sousse

Rabhi M<sup>1,2</sup>, Maatouk Y<sup>1,2</sup>, Dhaou M<sup>1,2</sup>, Mallek N<sup>1,2</sup>, Azouzi F<sup>1,2</sup>, Zaibi O<sup>1,2</sup>, Miladi H<sup>1,2</sup>, Kahloul A<sup>1,2</sup>, Marzouk M<sup>1,2</sup>, Hannachi N<sup>1,2</sup>

1. Microbiology Laboratory; Farhat Hached University Hospital; Sousse, Tunisia

2. Faculty of Medicine, University of Medicine of Sousse, Tunisia

**Introduction:** Tuberculosis remains one of the most common causes of infectious spondylodiscitis in Tunisia. Early and accurate diagnosis is crucial to ensure appropriate management and improve patient outcomes.

**Methods:** A retrospective study was conducted over 11 years (2014-2024), including GeneXpert® MTB/RIF Results obtained from disco-vertebral puncture/biopsy specimens (DVPB). GX Results were compared with those of direct microscopic examination and culture on Löwenstein-Jensen medium, which was considered the reference standard.

**Results:** A total of 89 DVPB specimens were analyzed during the study period, mainly originating from the Infectious Diseases Department (44 cases; 49%) and the Rheumatology Department (16 cases; 18%). The mean age of patients was 57 +/- 18 years, with a slight female predominance (male-to-female ratio = 0.56). Direct microscopic examination was positive in only three cases, with rare acid-fast bacilli observed, highlighting the paucibacillary nature of these lesions. GeneXpert® MTB/RIF was positive in 18 cases (20.2%).

**Conclusion:** Given the low sensitivity of direct microscopy and the long turnaround time of culture in cases of tuberculous spondylodiscitis, GeneXpert® MTB/RIF appears to be a rapid and reliable diagnostic tool, particularly in endemic settings. It represents an excellent adjunct to conventional diagnostic **Methods**.

#### Abstract 196: Predicting Mortality after Neonatal Surgery for Intestinal Obstruction: Insights from a 10-Year Experience in a Resource-Limited Setting.

Issaoui A, Zouari M, Jarboui O, Hbaieb M, Ben dhaou M, Mhiri R

Department of pediatric surgery, Hedi Chaker University Hospital, Sfax, Tunisia

**Introduction:** Neonatal intestinal obstruction (NIO) represents one of the most frequent surgical emergencies in neonatal intensive care units (NICUs), accounting for significant morbidity and mortality worldwide. Despite advances in anesthesia, surgery, and intensive care, survival remains a major challenge, particularly in resource-limited settings.

**Aim:** The aim of this study was to identify risk factors for 30-day mortality in neonates undergoing surgery for intestinal obstruction.

**Methods:** We retrospectively reviewed all neonates (<=28 days) who underwent surgery for intestinal obstruction between April 1, 2015, and March 31, 2025, at the Department of Pediatric Surgery, Hedi Chaker University Hospital, Sfax, Tunisia.

**Results:** A total of 171 neonates underwent surgery for intestinal obstruction during the 10-year period, with 61.4% being male. The main surgical conditions were anorectal malformations (n=68), duodenal atresia (n=42), jejunoileal atresia (n=30), and Hirschsprung disease (n=23). Thirty-eight neonates (22.2%) died within 30 postoperative days. Leading causes of death were nosocomial infections (n=13), abdominal sepsis (n=11), respiratory insufficiency (n=7), cardiac insufficiency (n=5), central nervous system hemorrhage (n=1), and acute renal insufficiency (n=1).

**Conclusion:** This study highlights five independent predictors of 30-day mortality in neonates undergoing surgery for intestinal obstruction. Incorporating these readily identifiable factors into perioperative assessment could enhance risk stratification, optimize management, and improve survival in this high-risk neonatal population.

#### Abstract 197: Prediction of blood transfusion requirement during lumbar osteosynthesis using machine learning

Guellim S<sup>1</sup>, Soussi M<sup>1</sup>, Naouar N<sup>1</sup>, Hajji R<sup>1</sup>, Ben Messaoud M<sup>2</sup>, Ksira I<sup>2</sup>, Ben Hamada H<sup>1</sup>, Naija W<sup>1</sup>

1. Department of Anesthesia and Reanimation, Sahloul Teaching Hospital University of Sousse, Faculty of Medicine of Sousse, Sousse, Tunisia;

2. Department of Neurosurgery, Sahloul Teaching Hospital, University of Sousse, Faculty of Medicine of Sousse, Sousse, Tunisia

**Introduction:** Lumbar osteosynthesis, a spinal surgery associated with a moderate to high risk of bleeding, is often combined with multilevel laminectomy, further increasing blood loss. Hemostasis during this procedure can be challenging.

**Methods:** This was an analytical study that employed supervised ML to predict transfusion requirements in patients undergoing lumbar osteosynthesis in neurosurgery. The sample size for model training and testing was established at 109 patients, calculated using G\*Power software. For external validation, 30% of this sample size (a minimum of 33 patients) was retained.

**Results:** A total of 142 patients were included, divided into a training/testing group (n=109) and an external validation group (n=33). The transfusion rate was 24.8% (n=27) in the training/testing group and 12.1% (n=4) in the validation group. Among the six ML models developed, binary logistic regression

was found to be the most effective in predicting transfusion requirements. The LR model achieved the lowest Log Loss (0.55) and the highest AUC (0.85).

**Conclusion:** Prediction of transfusion requirements during lumbar osteosynthesis in neurosurgery using multiple ML models showed that logistic regression was the most effective. Among the analyzed variables, the prone position emerged as the strongest predictive factor.

### Abstract 198: Predictive Factors for Surgical Intervention in Children with Ureteropelvic Junction Obstruction

Kharrat S, Belhaj Mansour M, Jarbouli O, Ben Dhaou M, Mhiri R

Pediatric Surgery Departement , Hedi Chaker Hospital, Sfax, Tunisia

**Introduction:** Ureteropelvic junction obstruction is one of the most common causes of hydronephrosis in the pediatric population. Although most cases can be managed conservatively with follow-up and serial imaging, some patients need surgical repair. As a result, the optimal evaluation strategy and indications for treatment have not been well defined. This study aimed to identify predictive factors for surgical intervention in children with ureteropelvic junction obstruction.

**Methods:** We conducted a retrospective study of children diagnosed with ureteropelvic junction obstruction from January 2020 to June 2024 in the Department of Pediatric Surgery in Sfax. Patients were divided into two groups. The first group included children who underwent surgery. The second group included children who managed conservatively through clinical, radiological, and isotopic follow-up.

**Results:** A total of 56 children were included. The surgical group had 23 patients (17 boys, 6 girls), median age 20 months. Prenatal diagnosis was present in 14 patients, 12 of whom had severe hydronephrosis. Postnatal ultrasound showed renal pelvis anteroposterior diameter > 20 mm in 19 cases and cortical thinning in 12 cases. Relative renal function on renography was < 40% in 10 cases. The conservative group had 33 patients (21 boys, 12 girls), median age 18 months.

**Conclusion:** Severe antenatal hydronephrosis, renal pelvis diameter > 20 mm, cortical thinning, and relative renal function < 40% are predictive factors for surgery in children with ureteropelvic junction obstruction. Although continued work is needed to develop clear guidelines for evaluation and treatment, and to better define long-term outcomes.

### Abstract 199: Predictive factors in delayed management of testicular torsion: A Cross-sectional study

Lahouar R, Gazzah W, Najjai MY, Ben Khalifa B, Naouar S, Salem B

Urology department, Ibn Jazzar Hospital, Kairouan, University of Sousse, faculty of medicine of Sousse, Tunisia

**Introduction:** Testicular torsion (TT) is an urological emergency requiring rapid intervention to preserve testicular viability. However, it is concerning that some patients are diagnosed late, greatly compromising the chances of testicular preservation.

**Methods:** This is a descriptive and analytical cross-sectional study conducted over a four-year period, including all patients diagnosed and treated for spermatic cord torsion during this period. The primary endpoints were the time taken to treat TCS (time to consultation and time to surgery); the secondary endpoints were the rate of orchidectomy and the incidence of postoperative complications.

**Results:** The mean age of our patients was 14.8 +/- 5.4 years. Of the 63 patients studied, only 41% sought medical attention

within six hours of symptom onset, the majority of whom (n=49) sought care for acute scrotal pain, often of sudden onset (76.2%). During surgery, testicular vitality was impaired in 73% of patients, presenting with ischemia, while 27% (n=17) had necrosis requiring orchiectomy.

**Conclusion:** Reducing TT delay management requires a combination of measures to improve access to care, raise awareness, and implement standardized clinical protocols. Only a multidimensional and coordinated approach will improve the management of this emergency and ensure better outcomes.

### Abstract 200: Predictive Utility of Complete Blood Count-Derived Indices in Urologic Oncologic Surgery

Ajmi M, Chrigui R, Ben Hameda H, Guellim S, Shkiri Z, Srihi S, Hajji R, Kahloul M, Naija W

Department of Anesthesiology and Resuscitation, Sahloul University Hospital, Sousse, Tunisia

**Introduction:** Urologic malignancies are a major cause of morbidity and mortality, particularly among older patients with multiple comorbidities. Oncologic urologic surgery carries a high risk of postoperative complications, including hemorrhagic, infectious, and thromboembolic events.

**Methods:** We conducted a retrospective, observational, analytical study in the Urology Department of Sahloul University Hospital (Sousse), including all patients who underwent major oncologic urologic surgery (radical prostatectomy, cystectomy, extended nephrectomy) between May 2022 and May 2024. Patients receiving treatments affecting blood counts, those who had recent blood transfusions, those with hematologic disorders, reoperations, and incomplete records were excluded.

**Results:** Thirty patients were included (mean age 62.6 +/- 15.6 years; 70% male), with a mean BMI of 25.3 kg/m<sup>2</sup> and an ASA score mainly II (50%). The most common comorbidities were hypertension (43.3%) and diabetes (26.7%). Procedures were predominantly extended nephrectomies (50%), total cystoprostatectomies (33%), and radical prostatectomies (17%). Mean operative time was 224 minutes. Intraoperative complications occurred in 23.3% of patients, mainly hemorrhagic, with transfusion required in 30%.

**Conclusion:** Complete blood count-derived indices, particularly NLR, appear to be simple, accessible, and effective prognostic markers for predicting postoperative outcomes in oncologic urologic surgery.

### Abstract 201: Predictive Value of Complete Blood Count-Derived Biomarkers for Outcomes in ICU Polytrauma Patients

Ajmi M, Chrigui R, Ben Hameda H, Guellim S, Houichi H, Shkiri Z, Youzbechi A, Kahloul M, Naija W

Department of Anesthesiology and Resuscitation, Sahloul University Hospital, Sousse, Tunisia

**Introduction:** Trauma is the leading cause of death in individuals under 40 years of age. Despite advances in critical care, the rate of preventable deaths remains high. Current severity scores have limitations, while complete blood count-derived indices such as RDW, NLR, and PLR have shown promising prognostic potential. This study aimed to evaluate these indices in polytrauma patients admitted to the ICU and to compare their predictive performance with existing scoring systems.

**Methods:** We conducted a retrospective, analytical observational study in the Anesthesiology and Intensive Care

Department of Sahloul University Hospital (Sousse) over a four-month period (March 15 to July 15, 2024). The objective was to assess the prognostic value of CBC-derived indices in ICU polytrauma patients and compare them with established scoring systems.

**Results:** Among 553 polytrauma admissions, 384 patients were included. Mean age was 44.9 years, with a male predominance (sex ratio 3.4). Road traffic accidents were the most common mechanism (78.1%), and thoracic (86.7%) and head injuries (57.6%) were the most frequent. Overall mortality was 16.9%. At ICU admission, IGS II and APACHE II had the best ability to predict mortality (AUC 0.819 and 0.817, respectively).

**Conclusion:** Trauma-related mortality remains a major public health challenge, highlighting the need for accurate tools to assess severity and predict outcomes. In this study, RDW was the most effective CBC-derived index for mortality prediction, while IGS II and APACHE II provided better overall accuracy. Combining simple indices with established scoring systems may improve risk stratification in ICU polytrauma patients.

### Abstract 202: Predictors of Early Mortality Following Major Neonatal Thoracic and Abdominal Surgery: Lessons from a Decade of Experience

Jarboui O, Zouari M, Issaoui A, Hbaieb M, Ben Dhaou M, Mhiri R

Service De Chirurgie Pédiatrique CHU Hédi Chaker Sfax, Tunisia

**Introduction:** Neonatal surgery for major thoracic and abdominal conditions is associated with substantial mortality, particularly in low- and middle-income countries. The aim of this study was to identify risk factors for 30-day mortality following neonatal surgery for major thoracic and abdominal conditions.

**Methods:** We conducted a retrospective cohort study of neonates who underwent major non-cardiac abdominal or thoracic surgery in a tertiary pediatric surgery center in Tunisia (Hédi Chaker University Hospital, Sfax) between April 2015 and March 2025.

**Results:** A total of 361 neonates underwent major abdominal or thoracic surgery during the 10-year study period. The male-to-female ratio was 1.3:1. The most common surgical conditions were esophageal atresia ( $n = 105$ ), duodenal atresia ( $n = 42$ ), anorectal malformations ( $n = 39$ ), perforated necrotizing enterocolitis ( $n = 36$ ), and omphalocele ( $n = 35$ ). A total of 85 neonates (23.5%) died within 30 days after surgery. On multivariable logistic regression, five variables were independently associated with 30-day mortality.

**Conclusion:** In this 10-year Tunisian cohort, outborn status, prematurity, congenital heart disease, low 5-minute Apgar, and prolonged operative time independently predict 30-day mortality after major neonatal surgery. Interventions to improve referral and stabilization of transferred neonates, routine preoperative cardiac assessment, and strategies to reduce operative burden may reduce early mortality in similar resource-limited settings.

### Abstract 203: Predictors of Progression to Brain Death in Severe Coma Patients in North African Intensive Care Units

Slama I<sup>1,2</sup>, Chouchene I<sup>1,2</sup>

Faculty of Medicine of Sousse, University of Sousse, Tunisia  
Department of Intensive Care Unit, Farhat Hached University Hospital, Sousse, Tunisia

**Introduction:** Organ donation from brain-dead (BD) patients is crucial for transplantation medicine. However, donor identification and conversion remain challenging in low- and middle-income countries (LMICs). This study aimed to identify clinical and epidemiological factors associated with progression to BD among severe coma patients in Tunisian Intensive Care Units (ICUs).

**Methods:** A pilot prospective multicenter cohort study was conducted over one year (November 2022 - October 2023) in three Tunisian university hospitals. We included 104 ICU patients with severe coma (Glasgow Coma Scale 8) requiring mechanical ventilation. Patients were followed until BD confirmation or ICU discharge. Multivariable logistic regression analysis was performed to identify independent predictors of progression to BD.

**Results:** Among the 104 patients (mean age: 47 years), 26 (25%) progressed to BD. The main etiologies were hemorrhagic stroke (57.7%) and traumatic brain injury (30.8%). Independent predictors of progression to BD were: Haemorrhagic stroke (Odds Ratio [OR]=13.83;  $p<0.001$ ), Traumatic causes (OR=5.76;  $p<0.001$ ), Prolonged ICU stay ( $>14$  days) (OR=12.54;  $p=0.014$ ), and presence of comorbidities (hypertension and/or diabetes mellitus) (OR=2.63;  $p=0.041$ ).

**Conclusion:** Haemorrhagic stroke is the strongest independent predictor of BD in this North African setting, highlighting the critical impact of uncontrolled chronic diseases. Early identification of these high-risk patient profiles is essential to optimize timely donor management and improve overall organ procurement rates.

### Abstract 204: Pregnancy after kidney transplantation: clinical experience and obstetric outcomes

Ghabri N, Khanfir F, Miladi M

Department of Gynecology - Hédi Chaker Hospital - Sfax - Tunisia.

**Introduction:** Pregnancy after kidney transplantation is a complex situation requiring close monitoring due to maternal, fetal, and graft rejection risks. Although many transplanted women can conceive, these pregnancies remain high-risk and require multidisciplinary management.

**Methods:** This is a retrospective descriptive study conducted at the Hédi Chaker University Hospital in Sfax in 2025. It involves two patients who experienced pregnancy after a functional kidney transplant. Data were collected from medical records, including medical history, obstetric and nephrological follow-up parameters, prenatal examinations, indications for delivery, as well as immediate maternal and neonatal outcomes.

**Results:** Two clinical observations illustrate the complex obstetric management of kidney transplant patients. The first concerns a 22-year-old patient who underwent a kidney transplant in 2017 and was regularly monitored during her pregnancy. Morphological ultrasound revealed hydrocephalus, agenesis of the corpus callosum and cerebellar vermis, as well as intrauterine growth retardation (IUGR). A cesarean section was indicated at 35 weeks and 2 days of amenorrhea due to deterioration of kidney function and positive proteinuria, following a multidisciplinary consultation.

**Conclusion:** Pregnancy in women with kidney transplants is still possible and can progress favorably with specialized care. Prenatal diagnosis, anticipation of complications, and close monitoring are the cornerstones of an optimal maternal-fetal prognosis.

### Abstract 205: Prehospital Shock Index as a Predictor of Massive Transfusion in Polytrauma Patients

Houichi H, Naouar N, Kahloul M, Houichi I, Youzbechi A, Ajmi M, Guellim S, Khiareddine A, Chaouch A, Naija W  
Department of Anesthesia and Intensive Care, Sahloul Teaching Hospital, Sousse, Tunisia

**Introduction:** Polytrauma remains a major cause of mortality, particularly within the first hours after injury. Massive hemorrhage is a key preventable cause of death, making early identification of patients requiring massive transfusion (MT) crucial.

**Methods:** A retrospective study was conducted from January 2022 to March 2024 to assess the predictive value of SI for MT in polytrauma patients. Data were collected from electronic medical records, including 118 variables related to demographics, trauma mechanisms, severity scores, and therapeutic interventions. Statistical analyses were performed using SPSS software, with ROC curve analysis to evaluate prognostic accuracy. Ethical standards were observed.

**Results:** A total of 316 patients were included, predominantly male (78.2%) with a mean age of 47.7 +/- 17.9 years. Road traffic accidents accounted for 77.8% of injuries, mainly thoracic (86.7%) and cranial (57.6%) trauma. The mean SI was 0.82 +/- 0.37, with 22.5% showing SI >= 1. MT was required in 19.9% of cases, and overall mortality was 16.8%.

**Conclusion:** SI represents a simple, rapid, and effective prehospital triage tool. An SI >= 1.06 accurately identifies polytrauma patients at high risk of MT, allowing early anticipation of resource needs and optimized resuscitation strategies. Its integration into prehospital triage and early management protocols appears both feasible and justified.

#### Abstract 206: Prevalence and associated factors of musculoskeletal disorders among medical students in Sousse

Kacem I<sup>1,2</sup>, Aloui A<sup>1,2</sup>, Loghmari A<sup>3,2</sup>, Bouhoula M<sup>1,2</sup>, Ajmi M<sup>4,2</sup>, Baccari H<sup>1</sup>, Kahloul M<sup>4,2</sup>, Knani L<sup>2</sup>

1. Occupational Medicine Department, Farhat Hached Teaching Hospital, Sousse, Tunisia;
2. University of Sousse, Faculty of Medicine of Sousse, 4000 Sousse, Tunisia;
3. Urology Department, Sahloul University Hospital, Sousse, Tunisia;
4. Anesthesia and Intensive Care Department, Sahloul University Hospital, Sousse, Tunisia

**Introduction :** Musculoskeletal disorders (MSDs) among university students represent a significant public health concern due to their detrimental effects on academic performance, physical well-being, and psychological health. To determine the prevalence of MSDs and identify associated factors.

**Methods:** This analytical cross-sectional study was conducted among second-cycle medical students at the Faculty of Medicine of Sousse, Tunisia, between September 2024 and March 2025. Data were collected through a self-administered French questionnaire. The standardized Nordic Musculoskeletal Questionnaire (NMQ), and the Perceived Stress Scale (PSS-10) were used to assess MSDs and stress levels.

**Results:** Among the 381 participants, 73.5% were female and predominantly in their third year of medical studies. Most students (73%) had a normal body weight, yet only one-third engaged in regular physical activity. A majority (over 50%) spent 10-20 hours per week studying, primarily at home (50%) and in a seated position (87%). Moderate stress levels were reported by 71.2% of respondents.

**Conclusion:** The Results advocate for urgent, integrated preventive measures combining ergonomic interventions,

mental health support, and promotion of regular physical activity to safeguard the health and academic success of future physicians.

#### Abstract 207: Prevalence and Determinants of Bullying Among Health Care Workers

Aloui A<sup>1</sup>, Kacem I<sup>1</sup>, Chouchane A<sup>1</sup>, Jammeli I<sup>2</sup>, Gannoun N<sup>1</sup>, Bouhoula M<sup>1</sup>, El Maalel O<sup>3</sup>, Chatti S<sup>3</sup>, Ghammem R<sup>4</sup>, Kalboussi H<sup>3</sup>

1. Department of Occupational Medicine, Farhat Hached University Hospital, Faculty of Medicine of Sousse, University of Sousse, Sousse, Tunisia;
2. Department of Occupational Medicine, Ibn El Jazza University Hospital, Kairouan Faculty of Medicine of Sousse, University of Sousse, Sousse, Tunisia;
3. Department of Occupational Medicine, Farhat Hached University Hospital, Faculty of Medicine of Sousse Tunisia;
4. Epidemiological department Farhat Hached University Hospital, Faculty of Medicine of Sousse Tunisia

**Introduction:** Workplace bullying is one of the main psychosocial risks, causing suffering at work or otherwise affecting well-being. To study the prevalence of workplace bullying in healthcare settings and identify the associated personal and professional factors.

**Methods:** This is a cross-sectional analytical study conducted among healthcare professionals at Farhat Hached University Hospital. Data were collected using a pre-established synoptic form covering the social and professional characteristics of the participants. Workplace bullying was assessed using the validated French version of the LIPT questionnaire.

**Results:** According to our Results, 362 participated in the study, representing a response rate of 72.4%. The average age of participants was 37.3+/-8.71 years, with a predominance of females (59.4%). The majority of participants were paramedical staff (54.4%). The prevalence of workplace bullying was 19.9%. The average age of subjects who had experienced bullying was 37+/-7.14 years, compared to 37.4+/-9.07 years for subjects who had not been bullying, with no significant difference. Paramedical staff who had experienced bullying accounted for 23.9% compared to 15.2% among other staff, with a significant difference (p=0.039). Among participants intending to change jobs, 36.4% had experienced bullying compared to 12.7% in the group not intending to change jobs, with a significant difference (p<0.001)

**Conclusion:** The prevalence of bullying among healthcare professionals is significant. Thus, preventive measures must be proposed and studied in order to put an end to its harmful effects.

#### Abstract 208: Prevalence and Risk Factors of Back Pain Among Students: The Impact of Backpack Use and Lifestyle Habits

Cherif M, Kalai A, Migaou H, Haddaoui F, Salah S, Boudokhane S, Jellad A, Ben Salah Z

Physical Medicine and Rehabilitation Department, University Hospital of Monastir, Tunisia;

**Introduction:** Back pain is a common issue among students, often influenced by lifestyle habits and backpack use. The aim of this study is to determine the prevalence of back pain and its associated factors among students.

**Methods:** This is a cross-sectional study including students aged 6 to 18 years who use a backpack at least 3 days per week. Sociodemographic data and backpack usage characteristics were collected. Back pain and its intensity were assessed using

the Visual Analog Scale (VAS).

**Results:** We included 33 patients (mean age: 11.96 +/- 3.16 years). Among them, 60% were female. Of these, 51.5% were elementary school students and 39.4% were secondary school students. A sedentary lifestyle was reported in 60.6% of the patients. Additionally, 96.7% had an average socioeconomic status. All participants carried a backpack over 5 days per week, with 72.7% carrying 5-10 kg.

**Conclusion:** This study highlights a high prevalence of back pain among students. Identifying associated factors is crucial for improving the health and well-being of this population.

### Abstract 209: Prevalence and risk factors of depression and suicidal ideation among the elderly in Tunisia

Saadouli S<sup>1</sup>, Ghammam R<sup>2</sup>, Ben Saad OK<sup>2</sup>, Mtiraoui A<sup>3</sup>

1. Higher School of Health Sciences and Techniques of Sousse, Tunisia;
2. Preventive and Community Medicine Department, Farhat University Hospital Hached Sousse, R19SP03, Faculty of Medicine of Sousse, University of Sousse;
3. Psychiatry Department, Farhat University Hospital Hached Sousse, Faculty of Medicine of Sousse, University of Sousse

**Introduction:** Considering the rapid ageing of the Tunisian population and the high prevalence of mental disorders among seniors, this study analyses the prevalence and risk factors of depression and suicidal ideation among the elderly in Tunisia.

**Methods:** This cross-sectional study was conducted between June and September 2025 in Sousse and Sidi Bouzid among community-dwelling and institutionalised seniors. Data were collected through a standardised questionnaire including the Arabic versions of the Geriatric Depression Scale short form (GDS-15) and the Beck Scale for Suicide Ideation (BSS).

**Results:** A total of 360 Elderly participated in the study. The mean age was 74.46 +/- 8.11 years. Males were slightly more represented (56.1%) than females, 11.7% resided in a nursing home. The study reveals a high prevalence of depressive symptoms, with 43.1% of participants classified as having mild depression and 23% suffering from moderate to severe depression. Crucially, the study identifies that 16.6% of the elderly participants report current suicidal ideation.

**Conclusion:** Depression and suicidal ideation are major public health concerns in Tunisia, driven by social isolation, chronic illness, and loss of autonomy. This work highlights the urgent need for integrated geriatric screening protocols and "Active Ageing" programs to preserve independence and mental well-being.

### Abstract 210: Prevalence and Severity of Nomophobia Among Medical Students at the Faculty of Medicine of Sousse

Bannour R<sup>1</sup>, Guedri K<sup>2</sup>, Sahl J<sup>1</sup>, Amara A<sup>1</sup>, Mellouli M<sup>1</sup>, Ghardallou M<sup>1</sup>, Mtiraoui A<sup>1</sup>

1. University of Sousse, Faculty of Medicine of Sousse, Department of Family and Community Medicine Research Laboratory "LR12ES03", Sousse, Tunisia;
2. University of Sousse, Faculty of Medicine of Sousse, Department of Family and Community Medicine Sousse, Tunisia

**Introduction:** Nomophobia-no-mobile-phone phobia-is a growing behavioral addiction linked to mobile phone dependence. Medical students, due to academic pressure and high mobile phone usage, may be particularly at risk. This study aimed to assess the prevalence and severity of nomophobia among medical students in Sousse, Tunisia.

**Methods:** A cross-sectional study was conducted among 83 medical students at the Faculty of Medicine of Sousse using the Nomophobia Questionnaire (NMP-Q). The NMP-Q contains 20 items scored on a 7-point Likert scale (total scores range from 20 to 140). Scores were classified as follows: 20-59 (mild), 60-99 (moderate), and 100-140 (severe). Data analysis was performed using SPSS v.23.

**Results:** The mean total NMP-Q score was 92.4 +/- 18.2, indicating moderate nomophobia. Among participants, 45.8% had moderate nomophobia and 38.6% had severe nomophobia. The most affected domain was "Not being able to communicate" (mean score: 24.5 +/- 6.3), followed by "Losing connectedness" (mean: 23.1 +/- 5.9). Female students (mean: 96.3 +/- 17.5) had significantly higher scores than male students (mean: 86.5 +/- 18.6, p = 0.03). No significant differences were observed by academic year.

**Conclusion:** A high prevalence of moderate to severe nomophobia was found among medical students, particularly in domains related to communication and connectedness. These findings highlight the need to raise awareness about nomophobia and promote healthier digital habits in academic settings.

### Abstract 211: Prevalence of anxiety symptoms among Tunisian employees

Ben Fredj S<sup>1</sup>, Ben Saad O<sup>2</sup>, Chouchen A<sup>3</sup>, Zammit N<sup>1</sup>, Ghammam R<sup>1</sup>, Skhiri A<sup>1</sup>, Jammali D<sup>4</sup>, Thabet H<sup>4</sup>, ElMaalel O<sup>3</sup>, Harrabi I<sup>1</sup>

1. Department of Preventive Medicine "LR19SP03", University Hospital Farhat Hached of Sousse, Faculty of Medicine of Sousse, University of Sousse, Sousse City, 4000, Tunisia;
2. Faculty of Medicine of Sousse, University of Sousse, Sousse City, 4000, Tunisia;
3. Department of Occupational Medicine, "LR19SP03", University Hospital Farhat Hached of Sousse, Faculty of Medicine of Sousse, University of Sousse, Tunisia, Sousse City, 4000, Tunisia;
4. Occupational Medicine Group, Sousse, Tunisia

**Introduction:** Anxiety disorders are among the most frequent mental health conditions globally and represent a growing concern in occupational settings. The modern workplace, particularly in white-collar environments, exposes employees to multiple psychosocial pressures that may contribute to heightened levels

**Methods:** We conducted a cross-sectional study in September 2025 among employees of a company in Sousse. Data were collected using a self-administered questionnaire that included sociodemographic characteristics, lifestyle habits, and anxiety symptoms assessed through the DASS Anxiety subscale. Statistical analyses were performed using SPSS v.25.

**Results:** Among the 171 respondents, 67 participants (50.9%) had scores within the normal range, while 19 (11.1%) showed mild anxiety, 35 (20.5%) moderate anxiety, 14 (8.2%) severe anxiety, and 16 (9.4%) extremely severe anxiety. The mean anxiety score was 11.8 +/- 8.7. The median score was 11 (IQR: 5-17), with values ranging from 0 to 40. The distribution showed a moderate positive skew (0.88) and slightly elevated kurtosis (0.48).

**Conclusion:** The study reveals a substantial burden of anxiety among white-collar employees. Observed tendencies highlight the relevance of supporting active and health-promoting behaviors in the workplace. These Results reinforce the need for integrated mental health programs, including systematic screening, early identification of at-risk groups, and organizational measures to foster psychologically healthy work environments.

### Abstract 212: Prevalence of APOL1 Gene Variants in Tunisian Patients with Focal Segmental Glomerulosclerosis: A Multicenter Study

Dahmane R<sup>1</sup>, Ben Aicha N<sup>1</sup>, Moussa A<sup>2</sup>, Zakham M<sup>1</sup>, Thabet N<sup>1</sup>, Jerbi M<sup>3</sup>, Letaief A<sup>4</sup>, Fernani H<sup>5</sup>, Omezzine A<sup>6</sup>, Zellama D<sup>1</sup>

1. Nephrology department, Sahloul Hospital, Faculty of Medicine of Sousse, university of sousse, Tunisia;
2. Biochemistry Department - Sahloul Hospital, Sousse;
3. Nephrology department, Mongi Slim Hospital, Faculty of Medicine of Tunis, Tunisia;
4. Nephrology department, Fattouma Bourguiba Hospital, Faculty of Medicine of Monastir, Tunisia;
5. Nephrology department, Nabeul Hospital, Tunisia;
6. Biochemistry Department, Sahloul Hospital, Faculty of Pharmacy, Monastir, Tunisia

**Introduction:** Focal segmental glomerulosclerosis (FSGS) is a leading cause of end-stage renal disease, characterized by multifactorial podocyte injury. Variants G1 and G2 of the APOL1 gene have been identified as strong susceptibility factors for FSGS in individuals of African

**Methods:** We conducted a multicenter case-control study across six university hospitals in Tunisia. Eighteen patients with histologically confirmed FSGS were enrolled. Targeted genetic analysis for APOL1 G1 and G2 variants was performed on blood samples. A control group from hospital blood banks underwent the same analysis. Clinical, laboratory, histological, and follow-up data were collected from patient records.

**Results:** The mean age of patients was 35 +/- 11 years, with a male predominance (sex ratio 11:7). Hypertension was present in 40% and diabetes in 22% of patients. The mean age at diagnosis was 25 +/- 14 years, and 83% presented with an impure nephrotic syndrome. Mean serum creatinine and urea were 157 +/- 85 µmol/L and 16.25 +/- 8 mmol/L, respectively. Nine patients (50%) received corticosteroids, and six (33%) required additional immunosuppressive therapy (cyclosporine, mycophenolate mofetil, or rituximab).

**Conclusion:** APOL1 risk variants are absent in Tunisian patients with FSGS, indicating a distinct genetic risk profile compared to African-descendant populations. These Results highlight the importance of investigating non-APOL1-related pathways in FSGS pathogenesis. A larger study including 150 patients is underway to confirm these findings and explore additional genetic and environmental factors.

### Abstract 213: Prevalence of depression symptoms among Tunisian employees

Ben Fredj S<sup>1</sup>, Chouchen A<sup>2</sup>, Ghammam R<sup>1</sup>, Zammit N<sup>1</sup>, Skhiri A<sup>1</sup>, Jammeli D<sup>3</sup>, Thabet H<sup>3</sup>, Hadj Mabrouk K<sup>3</sup>, Harrabi I<sup>1</sup>, Elmaalel O<sup>2</sup>

1. Department of Preventive Medicine "LR19SP03", University Hospital Farhat Hached of Sousse, Faculty of Medicine of Sousse, University of Sousse, Sousse City, 4000, Tunisia;
2. Department of Occupational Medicine, "LR19SP03", University Hospital Farhat Hached of Sousse, Faculty of Medicine of Sousse, University of Sousse, Tunisia, Sousse City, 4000, Tunisia;
3. Occupational Medicine Group, Sousse, Tunisia

**Introduction:** Depression is a leading cause of disability worldwide and poses significant challenges to workplace productivity and employee well-being. White-collar employees may be particularly vulnerable due to high job demands, sedentary work, and psychosocial stressors.

**Methods:** We conducted a cross-sectional study in September 2025 among employees of a company in Sousse. Data were collected using a self-administered questionnaire that captured sociodemographic characteristics, lifestyle habits, and depressive symptoms, assessed via the DASS Depression subscale. Statistical analyses were performed using SPSS v.25.

**Results:** A total of 171 employees participated, with a slight predominance of males (50.3%). The mean age was 38.35 +/- 7.91 years, and the majority were married (63.7%). Regarding depression, 87 participants (50.9%) scored within the normal range, while 19 (11.1%) had mild, 35 (20.5%) moderate, 14 (8.2%) severe, and 16 (9.4%) extremely severe symptoms. The mean score was 11.9 +/- 9.9, and the median was 9 (IQR: 4-17), with scores ranging from 0 to 40.

**Conclusion:** Depression affects nearly half of white-collar employees in this sample, with women at higher risk. Although lifestyle factors did not show significant associations, trends suggest the potential benefit of promoting physical activity and healthy habits. The findings underscore the significance of workplace mental health strategies, including early screening and gender-sensitive interventions, in promoting employee well-being.

### Abstract 214: Prevalence of job satisfaction among healthcare professionals at Farhat Hached University Hospital of Sousse

Ben Slama A<sup>1</sup>, Ben Saad OK<sup>2</sup>, Sahli J<sup>2</sup>, Bannour R<sup>2</sup>, Amara A<sup>2</sup>, Ghardallou M<sup>2</sup>, Mellouli M<sup>2</sup>

1. University of Sousse, faculty of medicine of Sousse;
2. University of Sousse, faculty of medicine of Sousse, Department of Family and Community Medicine Research laboratory LR12ES03, Tunisia

**Introduction:** Human resources are recognized as a decisive factor in the sustainability of health systems. Within this framework, job satisfaction has emerged as a central concept. It is closely tied to the effectiveness of care and to patient outcomes. Therefore, our study aimed to determine the prevalence of job satisfaction among healthcare professionals at Farhat Hached University Hospital of Sousse.

**Methods:** An analytical cross-sectional study was conducted between March and August 2024 among healthcare professionals (nurses, senior technicians, and nurse assistants) of Farhat Hached University Hospital. Data were collected using a self-administered questionnaire including sociodemographic variables, and the Professional Life Satisfaction Scale (ESVP).

**Results:** Our population consisted of 470 participants. Their mean age was 43.83 +/- 8.26 years, and 84.7% were female. Job satisfaction was generally low, with a mean ESVP score of 14.56 +/- 5.42, with values ranging from 5 to 35. Among the participants, 17.1% were classified as satisfied. To further elaborate, 1.5% were highly satisfied, 4% were satisfied, 13% were moderately satisfied, 18.5% were slightly dissatisfied, 52.1% were dissatisfied, and 10.9% were extremely dissatisfied.

**Conclusion:** Our Results reported predominantly low job satisfaction rates among our participants. Therefore, implementing targeted interventions are required to enhance job satisfaction levels and promote workforce well-being, and quality

### Abstract 215: Prevalence of stress symptoms among Tunisian employees

Ben Fredj S<sup>1</sup>, Chouchen A<sup>2</sup>, Ben Saad O<sup>3</sup>, Skhiri I<sup>1</sup>, Ghammam R<sup>1</sup>, Zammit N<sup>1</sup>, Gharbi A<sup>3</sup>, Jammeli D<sup>4</sup>, Harrabi I<sup>1</sup>, Hadj Mabrouk K<sup>4</sup>

1. Department of Preventive Medicine "LR19SP03", University Hospital Farhat Hached of Sousse, Faculty of Medicine of Sousse, University of Sousse, Sousse City, 4000, Tunisia;
2. Department of Occupational Medicine, "LR19SP03", University Hospital Farhat Hached of Sousse, Faculty of Medicine of Sousse, University of Sousse, Sousse City, 4000, Tunisia;
3. Faculty of Medicine of Sousse, University of Sousse, Sousse City, 4000, Tunisia;
4. Occupational Medicine Group, Sousse, Tunisia

**Introduction:** Stress is a major contributor to reduced productivity and impaired well-being in the workplace. White-collar employees may be particularly exposed due to high cognitive demands, sedentary work patterns, and psychosocial pressures.

**Methods:** We conducted a cross-sectional study in September 2025 among employees of a company in Sousse. Data were collected using a self-administered questionnaire that included sociodemographic characteristics, lifestyle habits, and stress symptoms assessed through the DASS Stress subscale. Statistical analyses were performed using SPSS v.25.

**Results:** Among the 171 respondents, 88 participants (51.5%) had stress scores within the normal range, while 20 (11.7%) presented mild stress, 24 (14.0%) moderate stress, 27 (15.8%) severe stress, and 12 (7.0%) extremely severe stress. The median stress score was 14 (IQR: 8-25), with values ranging from 0 to 42, and the mean score was 16.4 +/- 10.1. The distribution showed a slight positive skew, indicating a greater concentration of lower scores, and a mildly flattened (platykurtic) shape.

**Conclusion:** Stress affected nearly half of the white-collar employees in this study, with women demonstrating a significantly higher burden. Although lifestyle factors did not reach statistical significance, observed patterns highlight the potential benefits of promoting physical activity and healthier habits within the workplace. These findings underscore the need for comprehensive occupational mental health strategies, including early screening, prevention initiatives, and gender-sensitive interventions to enhance employee well-being.

### Abstract 216: Preventive Practices Among Competitive Youth Tennis Players in Tunisia: A Descriptive Analysis

Ksibi N<sup>1</sup>, Layouni S<sup>2</sup>, Naguez M<sup>3</sup>, Ghali H<sup>4</sup>, Loubiri I<sup>2</sup>, Grichi G<sup>2</sup>, Gaaloul B<sup>2</sup>, Rjiba C<sup>3</sup>, Jemni S<sup>2</sup>

1. Faculty of Medicine of Sousse;
2. Physical Medicine and Rehabilitation Department, University Hospital Sahloul, Sousse 4054, Tunisia;
3. Department of Family Medicine Faculty of Medicine of Sousse, University of Sousse, Sousse 4031, Tunisia;
4. Department of Preventive and Community Medicine, University Hospital Sahloul, Sousse 4054, Tunisia

**Introduction:** Preventive strategies, including warm-up, stretching, hydration, nutrition, and psychological preparation, are essential components of safe practice in youth tennis. However, little is known about their implementation among Tunisian young players.

**Methods:** This descriptive cross-sectional study included 256 competitive tennis players under 18 years of age from Sousse, Monastir, and Mahdia. Data were collected through a standardized questionnaire addressing preventive behaviors related to training and competition.

**Results:** Only 52% of players reported performing systematic warm-ups before training or competition. Post-exercise stretching was regularly practiced by 43%. Hydration was insufficient in 39% of athletes, with many failing to adjust fluid intake according to training demands. Nutritional awareness was limited, as only 28% had received professional dietetic

guidance. Psychological preparation before matches was reported by 22% of players.

**Conclusion:** Preventive behaviors remain insufficiently adopted among young Tunisian tennis players. Warm-ups, stretching, hydration strategies, nutritional guidance, and psychological preparation are not yet systematically integrated into their routines. These findings underline the need to promote awareness and education on preventive practices among athletes, coaches, and parents.

### Abstract 217: Probiotics in Wound Healing: A New Era for Diabetic Foot Management

Chakroun H<sup>1</sup>, Khechini O<sup>2</sup>, Ben Lasfar N<sup>3</sup>, Boudriga H<sup>1</sup>, Rouis S<sup>1</sup>

1. Department of Infectious Diseases, Ibn Jazzar University Hospital, Kairouan, Tunisia
2. Department of Anesthesiology and Intensive Care, Aghlabites Unit, Ibn Jazzar University Hospital, Kairouan, Tunisia
3. Department of Infectious Diseases, Farhat Hached University Hospital, Sousse, Tunisia

**Introduction:** Diabetic foot ulcers (DFUs) are a significant complication of diabetes and a leading cause of nontraumatic lower-limb amputations. Managing DFUs requires comprehensive approaches, including infection control, accurate diagnosis, wound care, and, when needed, timely surgical intervention.

**Methods:** A narrative review was conducted to assess the role of probiotics in DFU management. Databases including MEDLINE, ScienceDirect, CrossRef, and the Cochrane Library were searched, identifying 18 relevant studies based on inclusion and exclusion criteria. An additional article was sourced from reference lists, bringing the total to 19 studies.

**Results:** Probiotics showed significant potential as an adjunctive therapy in DFU management. They enhanced wound healing by improving angiogenesis and fibroplasia, reducing bacterial bioburden, and lowering systemic inflammation. Specific probiotics, such as *Lactobacillus plantarum*, demonstrated notable effects when applied topically or taken orally. Combined with antibiotics, probiotics further enhanced immune responses and improved glycemic control, thereby facilitating faster and more effective healing of infected DFUs.

**Conclusion:** The findings highlight the therapeutic potential of probiotics in DFU care, emphasizing their role in modulating the gut-skin axis, reducing inflammation, and controlling infections. Probiotics are cost-effective, easy to obtain, and scalable for broader applications. Topical application and oral intake of probiotics, especially when used as adjunctive therapies, seems to facilitate the healing process of infected diabetic foot ulcers.

### Abstract 218: Psycho religious features among nursing students and the impact on their mindset and performance

Ghali H<sup>1</sup>, Yusuf S<sup>2</sup>, Sakly Y<sup>2</sup>, Moussi S<sup>2</sup>, Kammoun M<sup>2</sup>

1. Faculty of Medicine of Sousse; University of Sousse
2. Institut Supérieur des Sciences Infirmières de Sousse

**Introduction:** Religious belief has a crucial role when it comes to individuals' way of thinking and behaviour. College student's attitude is highly related to their inner values that they hold which consequently affect one's actions.

**Methods:** We conducted a cross sectional study in three public nursing universities in Tunisia among 2nd and 3rd year students during the academic year 2023\2024, data were collected anonymously using the Google forms survey via an online

questionnaire published on academic groups of each grade.

**Results:** Overall 325 participant were studied, for our sample the median religiosity scale was 33 (total score [0-40], more than the half of the participants showed a growth mindset and a respectful clinical competence, psycho-religious features were positively related to a better way of thinking and clinical performance but differences were not significant.

**Conclusion:** Considering the fact that religiousness is a multidimensional entity especially in Muslim countries, further studies might reveal its interaction with other factors that influence directly nursing student's lifestyles and thinking.

### Abstract 219: Psychosexual Well-Being of Tunisian Healthcare Workers Amid the COVID-19 Crisis

Loghmani A<sup>1</sup>, Ben Abdallah W<sup>1</sup>, Ajmi M<sup>2</sup>, Bouassida K<sup>1</sup>, Kahloul M<sup>2</sup>, Jaidane M<sup>1</sup>

1. Urology Department, Sahloul University Hospital, Faculty of Medicine of Sousse, university of Sousse, Sousse, Tunisia;

2. Department of Anesthesia and Intensive Care ,Sahloul University Hospital, Faculty of Medicine of Sousse, university of Sousse, Sousse, Tunisia;

**Introduction:** The COVID-19 pandemic has profoundly impacted overall well-being worldwide. Intensive Care Unit (ICU) healthcare providers have been particularly exposed to its physical, psychological, and socioeconomic consequences. However, other dimensions of health, including psycho-sexual well-being, remain insufficiently explored.

**Methods:** A cross-sectional study was conducted among Tunisian ICU healthcare professionals between July and September 2021. Data were collected with a self-administered questionnaire. Sexual function was assessed using the Arabic validated versions of the International Index of Erectile Function (IIEF-15) for men and the Female Sexual Function Index (FSFI) for women.

**Results:** Forty ICU professionals (26 physicians and 14 nurses) participated in the study. The mean age was 28.2 years, with a sex ratio of 2.3. All participants were directly involved in COVID-19 patient management, and 80% reported an increased workload. The mean Rosenberg score was 27, indicating low self-esteem. The mean Fear of COVID-19 score was 22 +/- 2.

**Conclusion:** The COVID-19 pandemic had a substantial negative impact on the sexual health of ICU healthcare providers. These findings highlight the urgent need for targeted psychological and sexual health interventions in this vulnerable population.

### Abstract 220: Psychosocial Well-being and Sleep Quality in Patients Undergoing Peritoneal Dialysis: A Cross-Sectional Study

Dahmane R<sup>1</sup>, Messai A<sup>1</sup>, Dziri S<sup>1</sup>, Mahfoudh O<sup>1</sup>, Loghmani A<sup>2</sup>, Fradi A<sup>1</sup>, Azzabi A<sup>1</sup>, Guedri Y<sup>1</sup>, Zellama D<sup>1</sup>

1. Nephrology department, Sahloul Hospital, Faculty of Medicine of Sousse, Tunisia , University of Sousse; Tunisia

2. Urology department, Sahloul Hospital, Faculty of Medicine of Sousse, Tunisia , University of Sousse, Tunisia

**Introduction:** End-stage kidney disease (ESKD) and its treatments can profoundly impact patients' physical and psychological well-being. Peritoneal dialysis (PD), as a home-based renal replacement therapy, offers greater autonomy, flexibility, and quality of life compared with hemodialysis.

**Methods:** We conducted a cross-sectional study including 19 patients followed in the Peritoneal Dialysis Unit of Sahloul University Hospital between [insert dates if available]. Self-

esteem was assessed using the Rosenberg Self-Esteem Scale (RSES), while sleep quality was evaluated using the Epworth Sleepiness Scale (ESS). Demographic and clinical data, including comorbidities, were also collected.

**Results:** The median age of participants was 35.7 years, with a sex ratio of 1.3 (11 men and 8 women). Hypertension was present in 68% of patients, diabetes in 38%, and other comorbidities included hypothyroidism, heart failure, and ANCA-associated vasculitis (one case). According to the RSES, 52% of patients demonstrated normal self-esteem scores (31-34), 21% had high self-esteem (35-39), and 15% showed low self-esteem.

**Conclusion:** Peritoneal dialysis appears to support both psychological and physiological aspects of patient well-being. Most patients reported normal to high self-esteem and satisfactory sleep quality, highlighting the potential of PD to enhance overall quality of life and treatment adherence. Further studies with larger cohorts are warranted to confirm these findings and identify psychosocial and clinical determinants of well-being in this population.

### Abstract 221: Pulmonary Hydatid Disease in Tunisia: A Clinical and Radiological Review

Chakroun H, Kharrat I, Kacem A, Ben Jezia R

Infectious Diseases Department, Ibn Al Jazzar University Hospital, Kairouan, Faculty of Medicine of Sousse, University of Sousse, Tunisia

**Introduction:** Hydatid disease, caused by Echinococcus species, is a parasitic infection that can affect various organs, with the lungs being among the most commonly involved sites. Pulmonary hydatidosis can lead to significant morbidity and, in severe cases, mortality if left untreated. Early diagnosis and appropriate management are crucial to preventing complications such as cyst rupture or secondary infections.

**Methods:** This retrospective study was conducted in the Pneumology Department of Kairouan Hospital over six months, from October 2024 to March 2025, analyzing 12 confirmed cases of pulmonary hydatid disease diagnosed through clinical, radiological, and serological examinations. Imaging techniques, including chest X-rays and CT scans, were used to assess the cystic lesions.

**Results:** The study included 12 patients, with a female predominance (58.3%) and an average age of 36.7 +/- 13.8 years. A rural background was noted in 66.6% of cases, and 50% of patients had a history of contact with hydatid sources. The most common symptom was hemoptysis (41.1%), followed by chest pain (25%). Hydatid vomica was observed in only one case.

**Conclusion:** Pulmonary hydatid disease remains a major clinical concern, particularly in endemic regions. Early diagnosis through imaging and serological testing is essential for effective management. Continued vigilance, preventive measures, and awareness campaigns are necessary to reduce the burden of this disease.

### Abstract 223: Quality of Life Among Pregnant Healthcare Workers in Tunisia

Chouchane A<sup>1,2</sup>, Jemmel I<sup>2,3</sup>, Gmiza S<sup>1,2</sup>, Aloui A<sup>1,2</sup>, Gaddour A<sup>2,3</sup>, Makhouloufi M<sup>1,2</sup>, Bouhoula M<sup>1,2</sup>, Kalboussi H<sup>1,2</sup>, El Maalel O<sup>1,2</sup>, Chatti S<sup>1,2</sup>

1. Occupational Medicine and Occupational Diseases Department, Farhat Hached University Hospital, Sousse, Tunisia;

2. Faculty of Medicine of Sousse, Research Laboratory LR19SP03, University of Sousse, Sousse, Tunisia;

3. Occupational Medicine and Occupational Diseases Department, Ibn

El Jazzar University Hospital, Kairouan, Tunisia

**Introduction:** The hospital environment represents a high-risk occupational setting for pregnant healthcare workers. The physical and emotional changes associated with pregnancy may alter their ability to perform usual tasks and negatively impact their quality of life. To assess the work-related quality of life of pregnant women working in healthcare settings.

**Methods:** A descriptive cross-sectional epidemiological study was conducted among pregnant healthcare workers in the regions of Sousse and Monastir during six months. Data were collected using a pre-established questionnaire covering socio-professional characteristics, lifestyle habits, and pregnancy-related information. Work-related quality of life was assessed using the validated SF-36 scale. Data analysis was performed using SPSS version 22.

**Results:** A total of 50 pregnant healthcare workers were included. With a mean age of 31.7 years. More than half of the pregnant participants (54%) were between 29 and 39 weeks of gestation. Most participants (80%) reported issues related to workload. Additionally, three-quarters of the participants (70%) considered their working conditions during pregnancy to be acceptable, while 20% rated them as poor. Moreover, 60% stated that safety for pregnant healthcare worker was not adequately ensured in their workplace. The SF-36 **Results** showed an overall score of 46.35 +/- 13.66, indicating that 38% of participants had an impaired quality of life.

**Conclusion:** The work-related quality of life of pregnant women working in healthcare settings appears to be compromised. Therefore, early declaration of pregnancy to the occupational physician is essential to enable appropriate job adjustments.

#### Abstract 224: Quality of Work Life Among nurses in Tunisian University Hospitals: A Cross-Sectional Study

Sridi C<sup>1,2,3</sup>, Fki I<sup>1,2</sup>, Chelly F<sup>1,2</sup>, Belhadj N<sup>1,2</sup>, Maoua M<sup>1,2</sup>

1. University of Sousse, Faculty of Medicine of Sousse, Tunisia;
2. Department of Occupational Medicine, Sahloul University Hospital, Sousse, Tunisia;
3. Research Laboratory LR19SP03

**Introduction:** Quality of work life (QWL) is essential for nurses' well-being, motivation, and the quality of patient care. Hospital nurses often face heavy workloads, staffing shortages, and exposure to physical and psychosocial risks, which can impair QWL. To describe the quality of work life of nurses in two university hospitals in Sousse, Tunisia.

**Methods:** A cross-sectional study was conducted from March to April 2025 among nurses in medical and surgical departments of Farhat Hached and Sahloul University Hospitals. Data was collected using an anonymous, self-administered questionnaire including sociodemographic and occupational characteristics, psychosocial and organizational factors, and the Work Quality of Life Scale (QoWL).

**Results:** Among 113 nurses (response rate 75.3%), 66.3% were under 40 years old and 52.2% were women. Most reported insufficient equipment (69.9%) and inadequate staffing (45.1%). Physical demands were high: 65.5% performed strenuous tasks and 28.3% had experienced an occupational accident. Psychosocial pressures were common: 84.1% reported demotivation, 69.9% had witnessed patient deaths, and all had experienced workplace violence, mostly verbal. Overall, 60.2% had low QWL scores, particularly regarding general well-being (53.1%), job satisfaction (54%), work-life balance (51.3%), and perceived control at work (62.8%). More than 72% expressed dissatisfaction with the quality of care they delivered.

**Conclusion:** Nurses in these university hospitals experience poor quality of work life, with notable physical, organizational, and psychosocial challenges. These descriptive findings highlight areas requiring attention to improve nurses' working conditions and well-being.

#### Abstract 225: Radiological Scoring Systems for Outcome Prediction in Percutaneous Nephrolithotomy

Lahouar R, Mahdi M, Naouar S, Ben Khalifa B, Gazzah W, Salem B

Urology department, Ibn Jazzar Hospital, Kairouan, University of Sousse, faculty of medicine of Sousse, Tunisia

**Introduction:** Percutaneous nephrolithotomy (PCNL), known as a minimally invasive technique, is not without risk of complications. Several radiological scores have been developed to predict stone-free status and complications associated with this procedure.

**Methods:** We conducted a retrospective, cross-sectional, analytical study of NLPCs performed between 2006 and 2022. Univariate and multivariate analyses and an analysis of the areas under the ROC curve were performed to determine the predictive value of the Guys score (GS) and the Stone score.

**Results:** The study included a total of 210 patients. The SF rate was 58.6%. The overall complication rate was 29.4%. The mean scores for the Stone score and GSS were 6.88 +/- 1.56 and 2.13 +/- 0.87, respectively. Both scores were significantly correlated with Stone-free rate (SFR) after univariate analysis. However, only the Stone score was predictive of SFR after multivariate analysis.

**Conclusion:** The application of a radiological score has become a necessity before any decision on PCNL. These scores have been found to be similar in terms of predicting SFR. Their predictive value in terms of complications remains to be determined.

#### Abstract 226: Recommendation attitude of Tunisian healthcare workers towards influenza vaccine

Doghri S<sup>1</sup>, Letaief H<sup>2</sup>, Dhouadi S<sup>2</sup>, Hechaichi A<sup>2</sup>, Fitouri S<sup>1</sup>, Bouafif Ben Alaya N<sup>2</sup>

1. National Institut of Public health, University of ElManar, Faculty of Medicine of Tunis, Tunis, Tunisia;
2. National Observatory of Emerging and Reemerging Diseases, Tunis, Tunisia

**Introduction:** Healthcare workers (HCWs) are trusted sources of vaccine information and play a critical role in promoting influenza vaccination (IV). Understanding their attitudes toward recommending IV is essential to enhance community uptake. This study aimed to describe the attitudes of Tunisian HCWs towards recommending the influenza vaccine.

**Methods:** In February 2024, we conducted a national cross-sectional KAPP survey among frontline HCWs from 46 primary healthcare centers in nine Tunisian governorates. Data were collected through face-to-face interviews using a standardized, internally reviewed questionnaire based on the US-CDC protocol. Data were analyzed using SPSS.

**Results:** Among the 906 surveyed HCWs, 768 (84.8%) reported they would recommend influenza vaccination (IV) to their patients if available. The most frequently reported reason for recommending IV was identifying the patient as belonging to a high-risk group (82.6%). Among those who would not recommend IV, the main reasons cited were personal beliefs or preferences (25.7%), lack of trust in the vaccine (22.8%), fear of side effects (9.6%), and lack of awareness or information (5.1%).

**Conclusion:** Tunisian HCWs show a high propensity for recommending the IV but fail to recognize themselves as a priority target group. Interventions should focus on promoting the HCW's role as a priority recipient of the IV to translate their positive recommendation attitude into higher personal coverage and more effective patient advocacy.

### Abstract 227: Remifentanyl with or without Melatonin for Sedation-Analgesia During Urologic Endoscopic Procedures: A Randomized Controlled Pilot Trial

Ajmi M, Chrigui R, Ben Hammeda H, Youzbechi A, Srihi S, Elkissi K, Amri A, Kahloul M, Najja W

Department of Anesthesiology and Resuscitation, Sahloul University Hospital, Sousse, Tunisia

**Introduction:** Sedation-analgesia in urology enables procedures to be performed under spontaneous ventilation. Remifentanyl is widely used due to its rapid onset and offset, but it may cause respiratory depression or chest wall rigidity. Adding melatonin—a neurohormone with anxiolytic and analgesic properties—could enhance the effectiveness of sedation-analgesia.

This trial aimed to assess the benefit of combining melatonin with Remifentanyl during urologic endoscopic procedures.

**Methods:** This was a single-blind, randomized pilot clinical trial conducted in the urology operating room at Sahloul University Hospital over four months (February to May 2025). Two sedation-analgesia protocols for endoscopic procedures were compared: remifentanyl alone (control group) versus melatonin 1 mg combined with remifentanyl (intervention group). Thirty ASA ≤ II patients were included and randomly assigned to two groups of 15.

**Results:** Thirty-two patients were included and assigned to two groups comparable in demographics, medical history, and surgical indications ( $p > 0.05$ ). Mean durations of the endoscopic procedure and anesthesia were similar. Intraoperatively, blood pressure and heart rate remained stable in both groups, except for a significantly lower systolic blood pressure at induction in the control group ( $127.31 \pm 18.76$  vs  $140.62 \pm 16.44$  mmHg;  $p = 0.041$ ).

**Conclusion:** Sedation-analgesia is an attractive alternative for selected urologic endoscopic procedures and may be optimized by adding melatonin. In this pilot trial, the melatonin-remifentanyl combination reduced intraoperative pain and showed a lower failure rate, with no reported adverse effects. These findings support a potential role for melatonin as premedication, but larger double-blind randomized trials are needed.

### Abstract EP 228: Research on Leishmaniasis in Djibouti: Status, Diagnosis, Therapeutics

Mohamed Abdoul-latif H<sup>1</sup>, Mohamed Abdoul-latif F<sup>2</sup>

1. CHU Peltier de Djibouti;
2. Center of studies and research of Djibouti (CERD)

**Introduction:** Leishmaniasis is a priority neglected tropical disease in Africa, affecting millions of people and presenting a heavy epidemiological burden. Faced with this health emergency, numerous government and civil initiatives have been deployed to identify suitable solutions. This study aims to explore current diagnostic and therapeutic challenges while examining innovative approaches for its management.

**Methods:** An exhaustive analysis of the diagnostic and

therapeutic protocols was carried out, highlighting their limits, particularly in terms of toxicity and parasitic resistance. Alternative approaches, including the use of natural substances from brown algae of the Sargassaceae family, have been integrated to evaluate their potential in the treatment of leishmaniasis.

**Results:** Conventional treatments were effective but accompanied by significant limitations, such as toxic side effects and increasing parasite resistance. Studies conducted on Sargassaceae algae by-products have revealed promising properties, with potential antiparasitic and immunomodulatory effects. These preliminary Results suggest an encouraging avenue for the development of new complementary therapies.

**Conclusion:** This study highlights the need for innovative strategies to combat leishmaniasis. Sargassaceae by-products represent a viable option, offering promising prospects for reducing the limitations of conventional treatments and improving existing therapeutic approaches. **Keywords:** Leishmaniasis, Djibouti, Sargassaceae, diagnosis, alternative treatments, parasitic resistance, brown algae.

### Abstract 229: Residents' Contribution to Teaching at a Tunisian Faculty of Medicine

Rouis S<sup>1,2</sup>, Chouchene I<sup>1,3</sup>, Gaddas M<sup>1,4</sup>, Najja W<sup>1,5</sup>, Ben Saad H<sup>1,4</sup>, Lassoued L<sup>1,6</sup>

1. University of Sousse, Faculty of Medicine of Sousse, 4000, Sousse, Tunisia;
2. Infectious Diseases Department, Ibn Jazzar University Hospital, Kairouan, Tunisia;
3. Department of Intensive Care Unit, Farhat Hached University Hospital, Sousse, Tunisia;
4. Department of Physiology and Functional Explorations, Farhat Hached University Hospital of Sousse, Tunisia;
5. Department of Anesthesiology and Critical Care, Sahloul University Hospital, Sousse, Tunisia;
6. Gyneco-obstetrics Department, Farhat Hached University Hospital, Sousse, Tunisia

**Introduction:** Formal training for residents-as-teachers is increasingly emphasized in many institutions worldwide. This study aims to inventory training Methods for residents at the Faculty of Medicine of Sousse (FMSO), clarify residents' attitudes and perceptions towards teaching, and suggest ways to improve the training of residents-as-teacher

**Methods:** An online survey via Google Forms was sent to the residents of FMSO ( $n=1060$ ). An email containing a link to the survey was sent to training directors or coordinators of all accredited residency programs in the faculty, asking them to forward the link to all current residents across all specialties. Follow-up requests were sent twice at one-month intervals.

**Results:** One hundred five residents from all postgraduate years responded (response rate: 9.9%). Notably, 92.4% of residents reported receiving no prior training on how to teach before entering residency. Overall, 68.6% of residents reported teaching during a typical week, with 71.4% dedicating 1 to 5 hours per week to teaching learners (students and medical interns). Nearly one-third of residents (33.3%) agreed that teaching is enjoyable or rewarding, and 40.9% reported that they strongly influence medical students' career choices.

**Conclusion:** Although the sampling methodology and low response rate limit the generalizability of our findings, residents appear to value teaching, despite 17.1% feeling they lack feedback on their teaching skills. Our Results underscore the need to develop new training programs for residents-as-teachers and to refine existing ones, thereby enhancing the quality of medical education. Statistical significance was observed in several areas, indicating a need for targeted interventions.

### Abstract 230: Risk Factors, Clinical Profiles, and Vulnerability of Patients with Multidrug-Resistant Bacteria at Sahloul University Hospital (Q2-2025)

Meherzi M<sup>1</sup>, Meddeb T<sup>1</sup>, Ghali H<sup>1</sup>, Hadded N<sup>1</sup>, Azouzi F<sup>2</sup>, Bhiri S<sup>1</sup>, Balhi S<sup>1</sup>, Ben Cheikh A<sup>1</sup>, Said Laatiri H<sup>1</sup>

1. Department of Preventive and Community Medicine, Sahloul University Hospital, Sousse, Tunisia
2. Microbiology Laboratory, Farhat Hached University Hospital, Sousse, Tunisia

**Introduction:** Understanding the clinical characteristics and risk factors associated with multidrug-resistant bacteria (MDRB) is essential for effective prevention strategies. This study evaluates patient-related factors, infection origin, and vulnerability profiles among MDRB cases at Sahloul Hospital during the second quarter of 2025.

**Methods:** A descriptive cross-sectional study was performed from April to June 2025 at Sahloul Hospital. Demographic data, intrinsic and extrinsic risk factors, prior exposures, community vs HAI origin, and characteristics of patients carrying multiple MDRB were analyzed.

**Results:** Thirty patients were included (mean age 42.8 +/- 25.2 years; range 1-73; sex-ratio 1). Twenty-four cases (80%) were healthcare-associated, while six patients presented community-acquired MDRB, half of whom were immunocompromised and two-thirds previously hospitalized. Frequent risk factors included prior hospitalization within six months (73%), immunodepression (43.3%), previous antibiotic therapy (41.4%), urinary catheterization (56.7%), central venous catheterization (46.7%), mechanical ventilation (26.7%), and recent surgery (36.7%). Seven patients (23.3%) carried more than one MDRB.

**Conclusion:** Patients infected or colonized with MDRB exhibit multiple intrinsic and extrinsic risk factors, with invasive devices and prior antibiotic exposure playing a major role. Multi-germ carriers represent a high-risk subgroup requiring reinforced monitoring. Targeted interventions such as improved device management, antimicrobial stewardship, and early identification of vulnerable patients are essential to reduce MDRB dissemination.

### Abstract 231: Ropivacaine versus Bupivacaine for Maxillary Nerve Block in Postoperative Analgesia for Mandibular Fractures: A Randomized, Controlled, Double-Blind Trial

Ajmi M, Chrigui R, Ben Hammada H, Guellim S, Youzbechi A, Srihi S, Kahloul M, Naija W

Department of Anesthesiology and Resuscitation, Sahloul University Hospital, Sousse, Tunisia

**Introduction:** Mandibular fractures are the most common maxillofacial injuries and have a major functional and aesthetic impact. Their management relies on general anesthesia and strict control of postoperative pain. Locoregional analgesia-particularly the ultrasound-guided suprazygomatic maxillary nerve block-appears to be a promising technique. Ropivacaine has a better tolerability profile than bupivacaine, but comparative data remain limited. This randomized clinical trial was conducted to compare their analgesic efficacy.

**Methods:** This was a randomized, controlled, double-blind clinical trial conducted at Sahloul University Hospital in Sousse between February and April 2025. Twenty-four adult patients undergoing surgery for mandibular fractures were allocated into two groups: an ultrasound-guided maxillary nerve block with ropivacaine 0.2% (0.1 mL/kg) and an ultrasound-guided maxillary nerve block with bupivacaine 0.5% (0.1 mL/kg).

**Results:** Baseline characteristics were comparable between groups (age, weight, ASA status, duration of surgery/anesthesia;  $p > 0.05$ ). Intraoperatively, hemodynamic stability was maintained, with a significantly lower heart rate in the ropivacaine group at certain time points (45 min:  $p = 0.029$ ; 75 min:  $p = 0.001$ ; 90 min:  $p = 0.050$ ). Postoperatively, this group showed better hemodynamic stability (lower heart rate from 45 min and at 90 min, persisting at 24 h and 48 h;  $p < 10^{-3}$ ) and a

**Conclusion:** Bilateral maxillary nerve block with ropivacaine provided better postoperative analgesia than bupivacaine in patients undergoing mandibular fracture surgery, with lower VAS scores, improved hemodynamic stability, faster resumption of oral intake, and higher patient satisfaction. No complications were observed, supporting the efficacy and safety of ropivacaine.

### Abstract 232: Ruptured hepatic hydatid cyst into the peritoneal cavity

Bouazzi A, Farhat W, Lagha S, Azri M, Harrabi F, Mizouni A, Ben Mabrouk M

Department of General Surgery, Sahloul University Hospital, Medicine Faculty of Sousse, University of Sousse, Sousse 4002, Tunisia

**Introduction:** Hepatic hydatid cyst (HHC) remains a major public health issue in endemic regions. Intraperitoneal rupture is an uncommon but life-threatening complication requiring emergency management.

**Methods:** We conducted a retrospective study including 23 patients presenting with acute intraperitoneal rupture of hepatic hydatid cysts, managed in the Department of Visceral and Digestive Surgery at Sahloul University Hospital (Sousse, Tunisia) between January 2000 and April 2019.

**Results:** During the study period, 1,112 patients underwent surgery for HHC, among whom 23 (2.06%) presented with acute rupture into the peritoneal cavity. The mean age was 33 years, with a male-to-female ratio of 1.42. Rupture was secondary to abdominal trauma in three cases. Clinical presentation included generalized peritonitis in 18 patients and localized peritonitis in five. Allergic manifestations were observed in 24% of cases, including two episodes of anaphylactic shock. All patients underwent emergency surgical management consisting of peritoneal lavage, treatment of the ruptured cyst, and management of associated cysts when present. Postoperative antihelminthic therapy was systematically administered. Secondary peritoneal hydatidosis occurred in two patients during follow-up.

**Conclusion:** Acute intraperitoneal rupture of HHC is a rare but severe complication. Early diagnosis and prompt surgical management significantly improve prognosis. Delayed treatment increases the risk of secondary peritoneal dissemination.

### Abstract 233: School-adolescents lifestyle profile in Sfax Governorate

Bradai S<sup>1</sup>, Ketata N<sup>1</sup>, Ben Jmaa M<sup>1</sup>, Ben Ayed H<sup>1</sup>, Ben Hmida M<sup>1</sup>, Kassis M<sup>2</sup>, Jedidi J<sup>3</sup>, Yaich S<sup>4</sup>

1. Preventive Medicine And Hygiene Department Hédi Chaker Hospital

Sfax, Tunisia; 2.

2. Preventive Medicine And Hygiene Department Habib Bourguiba Hospital Sfax, Tunisia;

3. Department Of Preventive And Social Medicine , Faculty Of Medicine Sfax, Tunisia;

4. Community And Epidemiology Department Hedi Chaker Hospital Sfax, Tunisia

**Introduction:** Adolescent's lifestyle can have positive or negative influences on their overall wellbeing and health. In this context, this study aimed to evaluate lifestyle behaviors among school-adolescents (SA) in Sfax governorate.

**Methods:** We conducted a cross-sectional school-based study among secondary-school adolescents in Sfax Governorate during the 2017-2018 school-years. Information on socio-demographic and individual characteristics as well as on lifestyle behaviors among SA were collected using a self-administered questionnaire.

**Results:** The response rate was 96.9% (1221/1260). There were 492 boys (40.3%). Of all respondents, 51.8% (n= 633) were aged 16 years and above. The adolescents' family had mostly a middle income (n=909; 74.4%). The mean weight of SA was 59 +/-14.4 Kg and the mean height was 166 +/-9.67 cm. The prevalence of obesity was 19% (n=232). Regarding substance use, active smoking and alcohol consumption were respectively notified in 55.4% (n=544) and 4.7% (n=57) of SA. Twenty-two SA (1.8%) reported drug use at least once in their lifetime. Daily fast food consumption and daily soda consumption were respectively observed in 144 (11.8%) and 124 cases (10.2%). Eating fruits and vegetables daily was reported by 696 SA (57%) and 508 SA (41.6%), respectively. Playing sport for one to 3 hours per week was reported by 606 SA (49.6%). Skipping breakfast was noted in 358 SA (29.3%).

**Conclusion:** Based on these findings, health promotion and education in healthy lifestyles should be integrated in school curricula to promote both present and future health outcomes of SA.

### Abstract 234: Screening and Prevention of Renal and Cardiometabolic Diseases Among Healthcare Professionals: Experience from Sahloul University Hospital During World Kidney Day

Dahmane R<sup>1</sup>, Azzabi A<sup>1</sup>, Belhadj N<sup>2</sup>, Boukadida R<sup>1</sup>, Fradi A<sup>1</sup>, Sahtout W<sup>1</sup>, Ben Aicha N<sup>1</sup>, Guedri Y<sup>1</sup>, Maoua M<sup>2</sup>, Zellama D<sup>1</sup>

1. Nephrology department, Sahloul Hospital, Faculty of Medicine of Sousse, Tunisia , University of Sousse;

2. Occupational Medicine Department, Sahloul University Hospital, Faculty of Medicine of Sousse, University of Sousse, Tunisia,

**Introduction:** Chronic kidney disease (CKD) and cardiovascular diseases represent major public health concerns, closely interrelated and leading to significant morbidity and mortality. World Kidney Day provides a unique opportunity to raise awareness and promote early screening and prevention of these conditions, including among healthcare professionals.

**Methods:** A descriptive pre-experimental study was conducted among 92 healthcare professionals who participated in the screening activities. Data were collected using a standardized questionnaire, clinical examination, and biological screening tests. Parameters assessed included medical history, lifestyle habits, blood pressure, blood glucose levels, and urine dipstick analysis.

**Results:** Participants were predominantly female (89%) and mainly composed of nurses and auxiliary staff (40%). Hypertension was detected in 21%, diabetes in 12%, and known chronic kidney disease in 3% of participants. Healthy lifestyle

habits were observed in a majority, with 63% reporting regular physical activity and 42% adequate fruit and vegetable intake. However, self-medication was frequent (58%), particularly with NSAIDs (32%) and analgesics (73%). Urine analysis revealed hematuria in 26% and proteinuria in 5% of participants.

**Conclusion:** This study highlights the notable prevalence of renal and cardiometabolic risk factors among healthcare professionals, emphasizing the importance of early detection, targeted awareness, and preventive education within this population. The World Kidney Day initiative at Sahloul University Hospital demonstrates the value of integrating such screening campaigns into occupational and public health programs aimed at protecting the health of caregivers.

### Abstract 235: Screening for Obstructive Sleep Apnea Syndrome Among Nurses at University Hospital in Sousse

Chouchane A<sup>1,2</sup>, Jemmeli I<sup>2,3</sup>, Tebourbi Y<sup>1,2</sup>, Gaddour A<sup>2,3</sup>, Ben Abdejil W<sup>2</sup>, Knaz A<sup>4</sup>, Ben Fredj S<sup>2,5</sup>, Gammem R<sup>2,5</sup>, El Maalel O<sup>1,2</sup>, Chatti S<sup>1,2</sup>

1. Occupational Medicine and Occupational Diseases Department, Farhat Hached University Hospital, Sousse, Tunisia;

2. Faculty of Medicine of Sousse, Research Laboratory LR19SP03, University of Sousse, Sousse, Tunisia;

3. Occupational Medicine and Occupational Diseases Department, Ibn El Jazzar University Hospital, Kairouan, Tunisia;

4. Department of Pulmonology, Farhat Hached University Hospital, Sousse, Tunisia;

5. Department of community and preventive medicine, Farhat Hached University Hospital, Sousse, Tunisia

**Introduction:** Obstructive sleep apnea syndrome (OSAS) is a common sleep-related breathing disorder with significant health consequences. Nurses may be at increased risk due to night shifts, chronic stress, and sleep deprivation. Objectif: To screen for OSAS among nurses at Farhat Hached University Hospital.

**Methods:** A cross-sectional study was conducted, during 4 months, among nurses. Data were collected via direct interviews using a pre-established questionnaire covering socio-demographic, professional, medical, and lifestyle factors. OSAS risk was screened using the Berlin Questionnaire.

**Results:** A total of 300 healthcare workers participated (mean age 43.6 +/- 10.2 years; 80% female). Excessive daytime sleepiness was observed in 22.3% of participants, and 15.7% were at risk for OSAS. Univariate analysis identified age >35 years, medium socioeconomic level, professional seniority (24.5 +/- 10.3 years), active smoking, family history of OSAS, personal history of hypertension, diabetes, hypercholesterolemia, heart disease, BMI >30 kg/m<sup>2</sup>, self-reported sleep disorders, and sleep duration <4 hours as associated factors. In multivariate analysis, professional seniority >24.5 years (pa<0.002; ORa=1.06; 95% CI [1.02-1.10]) and personal history of hypertension (pa<10<sup>-3</sup>; ORa=22.88; 95% CI [9.07-57.72]) were independently associated with increased OSAS risk. Protective factors included regular physical activity (pa=0.008; ORa=0.16; 95% CI [0.06-0.62]) and sleep duration >4 hours (pa=0.005; ORa=0.1; 95% CI [0.02-0.5]).

**Conclusion:** OSAS risk was notable among nurses, particularly those with long professional seniority and hypertension. Promoting adequate sleep and regular physical activity may help reduce this risk.

### Abstract 236: Seasonal influenza vaccine uptake and practices among Tunisian healthcare workers. Tunisia, 2024

Doghri S<sup>1</sup>, Letaief H<sup>2</sup>, Dhoudi S<sup>2</sup>, Hechaichi A<sup>2</sup>, Fourati A<sup>1</sup>, Bouafif Ben Alaya N<sup>2</sup>

1. National Institut of Public health, University of ElManar, Faculty of Medicine of Tunis, Tunis, Tunisia;
2. National Observatory of Emerging and Reemerging Diseases, Tunis, Tunisia

**Introduction:** Healthcare workers (HCWs) are at increased risk of influenza infection and transmission. Despite international and national recommendations of influenza vaccine (IV), coverage remains low in Tunisia. This study assessed HCWs' vaccination practices and related behaviors.

**Methods:** In Between January and February 2024, we conducted a national cross-sectional knowledge, attitudes, perceptions, and practices survey among a representative sample of frontline HCWs in Tunisia from 46 primary healthcare centers across nine governorates. Face-to-face interviews were conducted by trained HCWs using a standardized and internally reviewed questionnaire based on the US-CDC protocol.

**Results:** A total of 906 HCWs participated with a median age=41.0 years [36.0-48.0]. IV uptake during the 2023/2024 season was 13.1%. Reported uptake prior to the COVID-19 pandemic was 28.5%, 13.5% for annual vaccination over the last five years. In univariate analysis, IV uptake for the 2023/2024 season was significantly associated with being older than 40 years, having a history of chronic illness, working in rural areas, being a physician, and having  $\geq 13$  years of professional experience. Uptake was also higher among HCWs with good knowledge of IV safety and efficacy, positive attitudes toward future vaccination, and previous IV uptake.

**Conclusion:** Despite being a high-risk group, influenza vaccination practices among Tunisian HCWs remain inadequate. Strengthening institutional promotion, reinforcing vaccine confidence, and integrating IV reminders into occupational health programs are needed to improve coverage.

### Abstract 237: Seasonal Variation in the Incidence of Spontaneous Abortion

Chouchane A<sup>1,2</sup>, Jemmeli I<sup>2,3</sup>, Derouiche M<sup>4</sup>, Tebourbi Y<sup>1,2</sup>, Youssef Rhomdhane Y<sup>2</sup>, Kacem I<sup>1,2</sup>, Maoua M<sup>2</sup>, Bouguizène S<sup>4</sup>, Chatti S<sup>1,2</sup>, Mrizak N<sup>1,2</sup>

1. Occupational Medicine and Occupational Diseases Department, Farhat Hached University Hospital, Sousse, Tunisia;
2. Faculty of Medicine of Sousse, Research Laboratory LR19SP03, University of Sousse, Sousse, Tunisia;
3. Occupational Medicine and Occupational Diseases Department, Ibn El Jazzar University Hospital, Kairouan, Tunisia;
4. Department of Obstetrics and Gynecology, Farhat Hached Hospital, "Research Laboratory LR12ES03", 4000 Sousse, Tunisia

**Introduction:** Several studies have suggested that the rate of spontaneous abortion (SA) may vary according to the season, with a potential increase during summer. However, scientific evidence remains inconsistent and Results across studies are heterogeneous.

**Methods:** We conducted an exhaustive retrospective epidemiological study including all cases of SA recorded in the Obstetrics and Gynecology Department of Farhat Hached University Hospital of Sousse over a two-year period. Sociodemographic and medical data were collected using a pre-established synoptic form based on the patients' medical records. The month during which SA occurred was documented.

**Results:** A total of 184 cases of SA were identified. SA occurred between 8 and 14 weeks of gestation in 59.2% of cases. During the study period, the mean temperature was 20.75°C (range: 6-36°C). The highest number of SA cases was observed in winter (47 cases), with no statistically significant difference ( $p = 0.3$ ).

The lowest numbers were recorded in autumn and spring (32 cases each).

**Conclusion:** Although most studies have reported an increased incidence of SA during warmer seasons, our study showed the highest number of cases in winter, without statistical significance. SA occurring in winter might be more related to viral infections such as influenza, which have been implicated in increased SA incidence in the literature. These findings highlight the need for further research considering all factors that may influence SA occurrence, particularly given the ongoing

### Abstract 238: Sexual Assault and Infectious Risks: Toward a Standardized Management Approach in Tunisia

Anane S, Makni C, Meddeb O, Graiet R, Kouada R, Ben Dhiab M

Department of Forensic Medicine, Farhat Hached University Hospital , Sousse, Tunisia

**Introduction:** Sexual assault represents a profound violation of the physical and psychological integrity of victims, exposing them to multiple risks, including infectious ones. Early detection, prevention, and appropriate management of these infections are therefore essential.

**Methods:** This is a systematic review of national and international recommendations as well as legislative texts, aiming to propose a safe and context-appropriate approach for the management of sexual assault victims.

**Results and Discussion:** The management of sexual assault victims must be immediate, comprehensive, structured, and centered on victim protection in order to prevent sexually transmitted infections. It begins with a rapid assessment of infectious risk, followed by referral to a specialized service and clear information provided to the victim regarding the risks involved, the importance of post-exposure prophylaxis, and necessary preventive measures. Implementation of an appropriate post-exposure prophylaxis regimen, along with short- and medium-term clinical and biological follow-up, is crucial to ensure health security. Psychological support and social assistance are also essential to mitigate the traumatic impact. These measures must comply with the Tunisian legal framework, particularly Organic Law No.

2017-58, which guarantees confidentiality, protection, and victims' rights. The variability in current practices, lack of standardized protocols, and the need for continuous training highlight the importance of a coordinated, interdisciplinary approach consistent with national and international recommendations.

**Conclusion:** A rapid, safe, and multidisciplinary management of sexual assault victims is essential to prevent infections and safeguard their well-being. The implementation of standardized protocols, in compliance with the legal framework, ensures an effective and humane response.

### Abstract EP 239: Sexual Harassment among Health Sciences Students : Findings from a Cross-Sectional Study in Sousse, Tunisia

Salhi F<sup>1</sup>, Ben Saad OK<sup>2</sup>, Sahli J<sup>2</sup>, Bannour R<sup>2</sup>, Amara A<sup>2</sup>, Ghardallou M<sup>2</sup>, Mallouli M<sup>2</sup>

1. Department of Family and Community Medicine, Faculty of Medicine of Sousse, University of Sousse, Tunisia;
2. Research laboratory LR12ES03, Faculty of Medicine of Sousse, University of Sousse, Tunisia

**Introduction:** Sexual harassment is major concern in academic

environments, with pejorative effects on student's mental health and academic development. However, the data on its prevalence and characteristics among medical students in Tunisia is limited.

**Methods:** A cross-sectional study was conducted among students enrolled in seven public health and private institutions for studies in health sciences in Sousse, Tunisia, over a period of 5 months in 2023. A self-administered questionnaire was developed and distributed, containing three sections (characteristics of students, sexual harassment details and assessment of psychological distress).

**Results:** The study population consisted of 500 students, predominantly female (63.8%) with a mean age of 21.71 +/- 1.49 years. The majority of students (80.6%) reported experiencing sexual harassment with their colleagues. Half of the participants (52.9%) reported the harassment occurring in a hospital setting, and 47.4% reported it occurring in the previous month. Staff members were responsible for sexual harassment in 66.0% of the cases.

**Conclusion:** Our Results show that this negative phenomenon is highly prevalent among our population. Therefore we must recommend implementing preventive strategies, as well as encouraging reporting of such behaviour and providing students with the emotional support they require.

#### Abstract 240: Sexuality after prolapse surgery: a retrospective study of 150 cases

Ghabri N, Khanfir F, Abdelhedi O, Trabelsi E, Yaich O

Gynecology Department, Hedi Chaker University Hospital of Sfax, Tunisia

**Introduction:** Urogenital prolapse is a functional disorder responsible for pelvic, urinary, anorectal, and sexual symptoms that can affect women's quality of life. The sexual experience of prolapse and its treatment is a determining factor in a woman's quality of life. assess the consequences of urogenital prolapse surgery on female sexuality.

**Methods:** This is a descriptive and analytical retrospective study conducted over a 6-year period from January 1, 2014, to December 2020. We interviewed 150 patients who underwent prolapse surgery (sacrospinous fixation, promontofixation, vaginal hysterectomy) using a questionnaire. For the evaluation of postoperative sexual function, we used the Pelvic Organ Prolapse/Urinary Incontinence Sexual Function Questionnaire (PISQ-12) in its French version.

**Results:** Among the 150 patients, 22 patients (14.7%) did not have sexual intercourse postoperatively. The evaluation involved only 128 patients. The mean total score out of 48 on the PISQ12 questionnaire assessing sexuality was 35.8, close to the maximum score, which indicates a fulfilling sexual life. Sexual activity was reported in 85.3% of patients. Regarding the study of predictive factors for satisfaction and dissatisfaction, we found that postoperative sexuality was less satisfactory in older patients and in those whose surgery was complicated by a digestive wound, urinary infection, surgical site infection, exposure of prosthetic material, or prolapse recurrence.

**Conclusion:** Urogenital prolapse is a common condition whose prevalence increases with age. Its surgical management aims to correct anatomical disorders and improve functional discomfort. The improvement of post-operative sexual experience is an argument that reinforces the importance of surgical management.

#### Abstract 241: Simulation-Based Learning for Cardiac Arrest Management in the Operating Room

Raoudha C<sup>1,2</sup>, Zeineb S<sup>2</sup>, Naour N<sup>2</sup>, Ben Hamada H<sup>1,2</sup>, Souha M<sup>2</sup>, Houichi I<sup>2</sup>, Bel Bahri A<sup>2</sup>, Hajji R<sup>2</sup>, Melayeh S<sup>2</sup>, Najia W<sup>1,2</sup>

1. Department of Anesthesiology and Resuscitation, Sahloul University Hospital, Sousse, Tunisia

2. Faculty of Medicine of Sousse, University of Sousse, Tunisia

**Introduction:** Cardiac arrest (CA) in the operating room is a rare but critical situation. Anesthesiology and intensive care students must acquire both theoretical and practical knowledge necessary for the management of such emergencies during their initial training.

**Methods:** A pre-experimental descriptive study was conducted among third-year students in anesthesiology and intensive care. Participants completed a pre-test based on the 2015 ERC guidelines, followed by a high-fidelity simulation session reproducing an adult intraoperative cardiac arrest scenario. Each session included briefing, simulation, and structured debriefing phases. Knowledge and satisfaction were assessed using a self-administered questionnaire.

**Results:** The participation rate in our study was 93.75%. During the pre-test, only half of the study population (56%) achieved a score above 75%. After the simulation session, students' theoretical knowledge showed a statistically significant improvement. The median pre-test score was 77, while the post-test score increased to 94 ( $p < 0.001$ ). The majority of students expressed overall satisfaction with the session.

**Conclusion:** These findings confirm that simulation enables students to acquire and reinforce knowledge, build self-confidence, and develop reflective thinking without risk to patients. However, it raises the question of whether combining simulation with other educational Methods could further enhance skill acquisition and improve performance.

#### Abstract 242: Sleep habits and insomnia among high school students: A cross-sectional study

Ben Belgacem H, Tej A, Ben Guedria M, Abdelbari M, Jaballah N, Kebaili R, Tilouche S, Soyah N, Boughamoura L

Department of Pediatrics, Farhat Hached University Hospital, Sousse, Tunisia

**Introduction:** Sleep plays a fundamental role in adolescent health and cognitive performance. However, academic pressure and increased use of electronic devices have been associated with poor sleep quality and insomnia among teenagers.

**Methods:** A descriptive cross-sectional study was conducted among 288 high school students aged 15-18 years. Data were collected using a self-administered questionnaire assessing sleep duration, bedtime routines, sleep disturbances, and the Insomnia Severity Index (ISI).

**Results:** The average sleep duration was 7 +/- 1.59 hours per night, with 58% of participants sleeping less than 8 hours. On school nights, 41.7% went to bed between 10 p.m. and 11 p.m., while on weekends, 57.3% reported going to bed after midnight. Regarding sleep onset, 47.8% fell asleep in under 15 minutes, and 33.7% required between 16 and 30 minutes. Difficulties falling asleep occurred "often" or "always" in 23.3% of cases.

**Conclusion:** A large proportion of adolescents reported insufficient sleep and mild insomnia, mainly related to late bedtimes, academic demands, and electronic device use. Educational interventions promoting better sleep hygiene are needed to foster healthier sleep behaviors and improve academic and psychological well-being.

### Abstract 243: Social Support and Post-Traumatic Stress Disorder After a Road Traffic Accident: A Descriptive Correlational Study

Bouasker I<sup>1,2</sup>, Zorgati A<sup>1,2</sup>

1. Faculty of Medicine of Sousse, University of Sousse, Tunisia  
2. Emergency Department, Sahloul University Hospital, Sousse, Tunisia.

**Introduction:** Post-traumatic stress disorder is the most common psychopathological consequence of exposure to a traumatic event such as road traffic accidents, whose frequency has been steadily increasing over the years.

**Methods:** A descriptive cross-sectional study conducted over a period of 9 months. Inclusion criteria: any patient aged between 18 and 65 years exposed to a road traffic accident, presenting a somatic repercussion of criteria A according to DSM-IV, with no history of mental illness, chronic disease, personality disorder, or stress (due to another traumatic event) during the past year, and who agreed to

**Results:** The sample had a male predominance, with a mean age of 36.66 years. PTSD was diagnosed in 64.2% of patients. Social support was considered low in 96.6% of participants, and satisfaction with the support received was rated as low in 52.7% of patients. No correlation was found between the two dimensions of social support and the development of post-traumatic stress disorder.

**Conclusion:** Post-Traumatic Stress Disorder is a relatively common and disabling condition. Understanding the development of this disorder and the factors that may influence it is essential for prevention and appropriate management. This study is the first of its kind in Tunisia, and its findings serve as a basis for future research

### Abstract 244: Sociocultural and Ethical Barriers to Organ Donation: A Major Impediment in North African ICUs

Slama I<sup>1,2</sup>, Chouchene I<sup>1,2</sup>

1. University of Sousse, Faculty of Medicine of Sousse, Sousse, Tunisia;  
2. Department of Intensive Care Unit, Farhat Hached University Hospital, Sousse, Tunisia

**Introduction:** The shortage of transplantable organs is exacerbated by low conversion rates from brain-dead patients to actual donors, particularly in LMICs, where sociocultural and ethical barriers are prominent. This study aimed to evaluate barriers to organ donation by analyzing the consent rate and the primary reasons for family refusal in Tunisia.

**Methods:** This prospective multicenter study included 17 patients confirmed as Potential Organ Donors (PODs). The national transplant coordination team approached the families of 12 eligible PODs for donation consent. The primary outcome measured was the rate of family refusal, along with the specific reasons cited by relatives.

**Results:** Among the 12 approached families, consent was obtained in 41.7% (5/12), resulting in a high refusal rate of 58.3% (7/12). This refusal rate was the main factor contributing to the low conversion rate (only 3 of 17 PODs became actual donors). Primary reasons for refusal were concerns about body integrity (42.9%), religious objections (28.6%), and family dynamics/influence (28.6%).

**Conclusion:** Family refusal, driven by sociocultural and religious beliefs, is the key impediment to increasing organ donation in

this region. Improved family communication through culturally sensitive training for healthcare professionals and public awareness campaigns involving religious authorities are crucial policy reforms needed to overcome these ethical barriers and boost donation rates.

### Abstract 245: Sociodemographic Profile of Migrants in Tunisia in 2024: Experience of the National Office of Family and Population

Khelifi L<sup>1</sup>, Khelifi A<sup>2</sup>

1. Ministry of Public Health of Tunisia;  
2. Technical Programs Department , National Office of Family and Population, Tunis, Tunisia

**Introduction:** In the context of increasing migration flow, it is essential to identify their sociodemographic profile , distinct from the Tunisian population, in order to better understand their needs.

**Methods:** This is a descriptive retrospective study conducted from January 2024 to December 2024 at the regional centers of the National Office of Family and Population (ONFP) in Tunis , Mednine, Sfax , Monastir, Sousse and Ariana. Migrants who attended consultations during this period were included, while incomplete records were excluded. Sociodemographic characteristics were collected from consultation forms, entered, and statistically analyzed.

**Results:** In 2024, a total of 2,577 migrants attended consultations in the studied regional offices, distributed as follows: Tunis (768, 29.8%), Mednine (257, 10.0%), Sfax (455, 17.7%), Monastir (39, 1.5%), Sousse (398, 15.4%), and Ariana (660, 25.6%). Monthly distribution was: January 212 (8.2%), February 238 (9.2%), March 191 (7.4%), April 158 (6.1%), May 218 (8.5%), June 217 (8.4%), July 248 (9.6%), August 208 (8.1%), September 187 (7.3%), October 165 (6.4%), November 245 (9.5%), and December 290 (11.3%).

**Conclusion:** This study highlights the sociodemographic characteristics of migrants seeking reproductive health care in Tunisia. An integrated and accessible care strategy, combined with targeted awareness-raising, is essential to effectively respond to this growing demand.

### Abstract 246: Sore Throat After Extubation: Comparison of Two Cuff Pressure Levels

Chrigui R, Gharbi R, Guellim S, Houichi E, Mhamdi S, Chouchene C, Bel Bahri A, Melayeh S, Kahloul M, Chaouch A

Anaesthesia and Intensive Care, Sahloul University Hospital, Faculty Of Medicine of Sousse, University of Sousse, Tunisia

**Introduction:** Post-extubation sore throat (PEST) is a frequent complication after general anesthesia with orotracheal intubation, with an incidence ranging from 20% to 70%. Although often considered minor, it negatively impacts postoperative comfort, patient satisfaction, and recovery.

**Methods:** This was a prospective, randomized, controlled, single-center clinical trial conducted in the operating theater of CHU Sahloul, Sousse, between February 15 and April 15, 2025. Adult patients (ASA I-III), undergoing surgery < 2 h in the supine position, were included. Several exclusion criteria were applied to limit laryngeal injury risk factors.

**Results:** Forty patients were analyzed (N = 40; 20/group), with comparable baseline characteristics. PEST was significantly more frequent in Group B at H6 (60% vs 40%; p = 0.028) and H12 (75% vs 20%; p < 10<sup>-3</sup>), with a persisting trend at H24 (35%

vs 10%;  $p = 0.130$ ). Mean PEST intensity over 24 h was higher in Group B (VAS 4.25) compared to Group A (VAS 2.05), decreasing to  $< 1$  by H12.

**Conclusion:** Maintaining cuff pressure  $\leq 24$  cm H<sub>2</sub>O significantly reduces the incidence and severity of pharyngolaryngeal complications within 24 hours post-extubation and improves patient satisfaction. Routine manometric monitoring is a simple, low-cost measure that should be systematically implemented. Larger multicenter studies are warranted to confirm these findings.

#### Abstract 247: Species-Specific Trichoscopic Features in Tinea Capitis: A Cross-Sectional Study from Tunisia

Krima H, Ghariani Fetoui N, Mkhini H, Lahouel M, Saad S, Rouatbi J, Mokni S, Aounallah A, Ghariani N, Denguezli M

Department of dermatology Farhat Hached Hospital, Sousse, Tunisia

**Introduction:** Tinea capitis (TC) remains a public health concern in Tunisia, not only because of its persistent prevalence but also due to the limited availability of mycological diagnostic laboratories in regional hospitals and primary healthcare centers.

**Methods:** We conducted a cross-sectional descriptive study including confirmed cases of tinea capitis, diagnosed by positive mycological culture. For each patient, all trichoscopic signs were recorded, and their frequencies and strength of association were calculated separately for trichophytic and microsporic tinea.

**Results:** Seventy-two patients were included, with 61.1% males and 39.9% females (sex ratio 1.57). The study population was predominantly pediatric, consisting of 70 children and only 2 adults, with a mean age of 8.17 years ( $\pm 9.75$ ). Regarding isolated species, *Microsporum canis* was identified in 77.4% of cases, followed by *Trichophyton violaceum* in 21%. Clinically, the most frequent findings were broken hairs (97.2%), scales (94.4%), and erythema (97.2%).

**Conclusion:** This study confirms *Microsporum canis* as the predominant etiologic agent of tinea capitis in our pediatric population, in line with regional and international reports. Trichoscopy revealed species-dependent patterns: zigzag and Morse code-like hairs were significantly associated with *M. canis*, whereas comma and corkscrew hairs were more frequently seen in *T. violaceum* infections. These differences likely reflect distinct modes of hair shaft invasion and damage.

#### Abstract 248: Spectrum of comorbidities in pediatric atopic dermatitis: A prospective study

Afli D, Lahouel M, Gafsi Z, Saad S, Fhariani Fetoui N, Mokni S, Aounallah A, Zinelabidine Ghariani N, Denguezli M

Department of dermatology Farhat Hached Hospital, Sousse, Tunisia

**Introduction:** Atopic dermatitis (AD) is a common, chronic, pruritic inflammatory dermatosis that affects up to 20% of children worldwide. While AD is strongly associated with allergic comorbidities, its relationship with non-allergic systemic diseases remains less well characterized.

**Results:** A total of 123 children with AD were included (mild-to-moderate [ $n = 88$ ] and severe [ $n = 35$ ]). The mean age was 5.76 years (range: 4 months-16 years), with a male-to-female ratio of 1.41. Forty-eight patients (39%) had at least one additional atopic manifestation, including allergic rhinitis (36 patients, 29.3%), asthma (13, 10.6%) and allergic conjunctivitis (18, 14.6%). However, these conditions did not appear to follow

the classical progression described in the atopic march. Other comorbidities were identified in 47 patients (38.2%) including urticaria (12, 9.7%), contact eczema (5, 4%) and food allergy (10, 8.1%), five of which were confirmed by clinical testing.

**Conclusion:** Our findings are consistent with the literature regarding the association of AD with atopic comorbidities, with at least one personal history of atopy identified in 39% of patients, mainly allergic rhino-conjunctivitis. These Results support the concept of atopic multimorbidity syndrome rather than the classical "atopic march." Urticaria (12 patients) aligns with Chiu et al., who reported a significant association between AD and chronic urticaria. Contact eczema, present in five cases, may mimic AD flares. Impaired skin barrier and repeated topical exposures can promote sensitization to allergens.

#### Abstract 249: Sport Specialization in Young Tunisian Tennis Players: A Descriptive Study

Ksibi N<sup>1,2</sup>, Layouni S<sup>1,2</sup>, Ghali H<sup>1,4</sup>, Loubiri J<sup>1,2</sup>, Tayaa S<sup>1,2</sup>, Gaaloul B<sup>1,2</sup>, Naguez M<sup>1,3</sup>, Rjiba C<sup>1,3</sup>, Jemni S<sup>1,2</sup>

1. Faculty of Medicine of Sousse, University of Sousse, Tunisia

2. Physical Medicine and Rehabilitation Department, University Hospital Sahloul, Sousse 4054, Tunisia;

3. Department of Family Medicine, Faculty of Medicine of Sousse, University of Sousse, Sousse 4031, Tunisia;

4. Department of Preventive and Community Medicine, University Hospital Sahloul, Sousse 4054, Tunisia

**Introduction:** Early sport specialization is increasingly recognized as a relevant factor in youth athletic development. The sport specialization score, based on a validated questionnaire, allows the classification of young athletes into low, moderate, or high specialization. The aim of this study was to describe the distribution of specialization levels among young Tunisian tennis players.

**Methods:** A cross-sectional descriptive study was conducted between October 2023 and August 2024, including 256 competitive tennis players under 18 years of age from clubs in Sousse, Monastir, and Mahdia. Data were collected using a standardized questionnaire, which included the three-item sport specialization scale assessing (1) participation in tennis as the only sport, (2) year-round intensive training ( $> 8$  months per year), and (3) priority given to tennis over other sports. Each positive answer scored one point, leading to a total between 0 and 3. Players were then categorized as low (0-1), moderate (2), or high (3) specialization.

**Results:** The median specialization score among participants was 2. Overall, 22% of players were classified as low specialization, 30% as moderate, and 48% as high specialization. A majority of players (62%) reported starting tennis before the age of 7, and nearly half had already excluded other sports from their regular practice.

**Conclusion:** This descriptive study highlights that almost one in two young Tunisian tennis players is highly specialized according to the specialization score. These findings underline the early and intensive commitment to tennis within this population, with limited multisport participation.

#### Abstract 250: Strengthening Research Capacity Through Guided Training: Perspectives of Early-Career Physicians in Tunisia

Khechini O, Fhima F, Kharrat I, Chakroun H, Ghzel R, Souii S

Faculty of Medicine of Sousse, University of Sousse, Tunisia

**Introduction:** Developing strong research competencies is

increasingly recognized as an essential component of modern medical education. For early-career physicians, exposure to structured research training and sustained mentorship can play a decisive role in shaping academic motivation, improving methodological rigor,

**Methods:** A descriptive cross-sectional survey was conducted among 40 early-career physicians from different medical institutions in Tunisia. The questionnaire gathered demographic information, details on previous research involvement, perceived obstacles to conducting research, and preferred training domains. Participants also indicated whether mentorship-supported training would enhance their engagement. All data were summarized using descriptive statistics, including means and frequencies.

**Results:** Participants had a mean age of 33.9 +/- 4.9 years, and 60% were female. Most respondents (82%) reported having taken part in at least one research project during their training, while 70% had presented at academic conferences and 55% had contributed to at least one publication. Despite this engagement, several persistent barriers were identified, including restricted access to research resources (4.0 +/- 0.9), heavy clinical workload (3.9 +/- 1.1), and insufficient exposure to methodological skills during training (3.6 +/-

**Conclusion:** Young Tunisian physicians demonstrate both motivation and readiness to strengthen their research skills but face notable barriers that limit their active participation. The strong interest expressed in mentorship-guided training underscores the importance of establishing structured institutional programs that focus on methodological development, statistical competence, and academic writing. Prioritizing these initiatives may significantly enhance research engagement, improve scientific productivity, and contribute to a more robust academic environment within the medical community.

### Abstract 251: Stress Among Tunisian Adults : Influence of Sociodemographic and Clinical Characteristics

Berrajah S<sup>1</sup>, Jeridi R<sup>1</sup>

Faculty of Medicine of Tunis, University of Sousse, Tunisia

**Introduction:** Stress is a major public health issue influenced by multiple determinants. Sociodemographic and clinical factors play a central role in its occurrence and intensity. The objective of this study was to assess the prevalence of stress among Tunisian adults and to identify the main sociodemographic and clinical factors associated with it.

**Methods:** A cross-sectional study was conducted among 40 adults attending the intermediate health center of Sidi Hassaine during July 2025. Sociodemographic, clinical, and lifestyle data were collected. Stress levels were assessed using the Perceived Stress Scale - 4 items (PSS-4). Statistical analysis included univariate description and bivariate tests to explore associations between stress and the studied variables.

**Results:** A total of 40 adults were included, with a mean age of 55.6 +/- 6 years; 37.5% were men and 62.5% women. Most participants had a middle socioeconomic level (67.5%). Regarding education, 10% were illiterate, 35% had primary, 42.5% secondary, and 12.5% higher education. Among them, 37.5% were active smokers, 62.5% practiced regular physical activity, and 32.2% followed a balanced diet. The mean BMI was 28.8 +/- 4.54, with 40% obesity.

**Conclusion:** Our study shows a low prevalence of high stress (5.4%) among Tunisian adults. Female gender, smoking, and high BMI were associated with greater perceived stress, while regular physical activity appeared to be protective. These

findings are consistent with the literature, highlighting the influence of lifestyle and body weight on stress. The lack of association with other variables may be due to the small sample size and the single-center design.

### Abstract 252: Stress Responses During High-Fidelity Simulation in Anesthesia and Critical Care Training

Ben Khedher H<sup>1</sup>, Naouar N<sup>1</sup>, Houichi I<sup>1</sup>, Soussi M<sup>1</sup>, Houichi H<sup>1</sup>, Belaid M<sup>1</sup>, Landolssi O<sup>1</sup>, Dahmane S<sup>2</sup>, Chaouch A<sup>1</sup>, Najja W<sup>1</sup>

1. Department of Anesthesia and Intensive Care Sahloul Teaching Hospital, Sousse, Tunisia;

2. Higher School of Health Sciences and Technologies of Monastir , Tunisia

**Introduction:** Simulation is an essential educational tool in health sciences, particularly in anesthesia and intensive care, providing students with a safe environment to develop technical and non-technical skills.

**Methods:** A descriptive cross-sectional study was conducted at the Private Higher School of Health Sciences and Techniques , during the 2024-2025 academic year. Thirty-six anesthesia students participated in a standardized simulation scenario. Stress was assessed using physiological measures (heart rate, respiratory rate, blood pressure), a visual analog scale (VAS), and the State-Trait Anxiety Inventory (STAI).

**Results:** Among the 36 participants (77.8% female; mean age 22.1 +/- 0.9 years), heart rate and respiratory rate increased significantly after simulation (84.7 +/- 13.4 vs. 79.6 +/- 11.5 bpm, and 16.2 +/- 3.0 vs. 14.9 +/- 2.6 cycles/min, both p<0.001). Subjective stress measured by VAS rose from 4.47 +/- 2.09 pre-simulation to 7.22 +/- 1.96 post-simulation (p<0.001). STAI-State scores also increased significantly (37.9 +/- 7.5 vs. 48.1 +/- 9.8, p<0.001), while STAI-Trait scores remained stable.

**Conclusion:** High-fidelity simulation induces significant physiological and subjective stress among anesthesia students. Despite this, the experience was highly valued, particularly the structured debriefing, which enhanced learning. These findings suggest that simulation-induced stress can be educationally beneficial when combined with effective debriefing, supporting the continued integration of simulation in anesthesia and intensive care training.

### Abstract 253: Student perceptions of artificial intelligence in healthcare

Ghali H<sup>1</sup>, Brinissi S<sup>2</sup>, Boukadida D<sup>2</sup>, Hamdouni A<sup>2</sup>, Abbes F<sup>1</sup>, Kammoun M<sup>3</sup>

1. Faculty of Medicine of Sousse, University of Sousse, Tunisia

2. Higher School of Health Sciences and Techniques of Sousse, University of Sousse, Tunisia;

3. Higher Institute of Nursing Sciences of Sousse, University of Sousse, Tunisia

**Introduction:** The healthcare field is rapidly moving towards digitalization, with artificial intelligence (AI) playing a central role. This transition is impacting the practices and structures of the healthcare system, which sees AI as one of the opportunities to improve the quality of care. We aimed to describe students' perceptions of AI in the health field at Sousse Higher School of Health Sciences and Techniques.

**Methods:** We conducted a cross-sectional study among students of Higher School of Health Sciences and Techniques of Sousse, during the 2023-2024 academic year. For data collection, we used a self-administered questionnaire inspired by the literature and administered anonymously to the students.

**Results:** A total of 381 students at the Higher School of Health

Sciences and Technology of Sousse were approached for our study, 286 students participated, giving us a response rate of 83.87%. The average age of the participants was 20.65 +/- 1.32 years. The Results of the study reported a high level of overall knowledge about the concept of AI, reaching 77.3% However, only 66.8% correctly defined AI, while 45.1% identified machine learning (ML). The majority of students 71.7% had favorable attitudes regarding the use of AI in healthcare, and many thought AI should be included in the educational curriculum.

**Conclusion:** The gradual and well-supervised adoption of AI, coupled with adequate training for future healthcare professionals, will maximize the benefits while minimizing the risks, ensuring a future where AI plays a central role in improving healthcare.

### Abstract 254: Students' Perceptions of Clinical Education in Health Sciences: Insights from the Sousse Experience, Tunisia

Bannour B<sup>1</sup>, Bannour R<sup>2</sup>, Fhal A<sup>3</sup>, Laajimi G<sup>3</sup>, Rjeibi R<sup>3</sup>, Abbas F<sup>3</sup>, Bannour I<sup>1</sup>

1. Department of Gynecology and Obstetrics, Farhat Hached University Hospital, Sousse Tunisia;

2. Faculty of Medicine of Sousse, University of Sousse, Research Laboratory LR12ES03,4002, Sousse Tunisia;

3. Higher School of Health Sciences and Techniques of Sousse

**Introduction:** Clinical education plays a crucial role in shaping competent healthcare professionals by bridging theoretical learning and practical experience. Understanding students' perceptions of this training environment is essential to improving pedagogical quality and professional readiness. This study aimed to assess the perceptions of health science students at the Higher School of Health Sciences and Techniques of Sousse regarding the quality of clinical teaching, supervision, and learning conditions during their hospital placements.

**Methods:** A cross-sectional study was conducted between February and April 2025 among 179 paramedical students from various specializations (emergency care, pediatrics, podology, and surgical instrumentation). Data were collected through a validated self-administered questionnaire addressing six domains: integration, skill development, teaching perception, motivation, and overall satisfaction. Data analysis was performed using SPSS version 21, respecting ethical and confidentiality principles.

**Results:** Most respondents were female (93.9%), with a mean age of 21.8 years. About 74.9 % considered available resources partially adequate, and 45.3 % reported that workload and expectations were motivating without being overly stressful. However, 62 % cited stress and fatigue, and 52.5 % reported organizational or material shortages. Suggestions for improvement included enhanced supervision (15.1 %) and better resource availability (12.9 %).

**Conclusion:** Students' perceptions reveal a moderately satisfactory clinical learning environment, highlighting strengths in practical engagement but persistent gaps in supervision and logistical support. Strengthening clinical mentoring, improving material resources, and fostering active pedagogical approaches are essential to enhance the quality and effectiveness of clinical education in Tunisia.

### Abstract 255: Translation, cultural adaptation, and validation of the Maternal Health Literacy Inventory in Pregnancy (MHELIP) scale in Arabic for pregnant women in Tunisia

Badri A

University of Sousse, Tunisia

**Introduction:** The Sousse School of Health Sciences and Techniques Problem statement: Health literacy (HL) was introduced by Simonds in 1974 as a key objective of health education and is now recognized as a critical determinant of public health. According to WHO, HL encompasses cognitive and social skills enabling individuals to access, understand, and use information to promote and maintain health, including communication, critical thinking, and expressing needs. HL is crucial in chronic disease management and self-care.

**Methods:** A cross-sectional methodological study will be conducted from March to December 2025 in primary health care centers in Sousse, Sidi Bouzid, and Kairouan. Eligible participants are low-risk pregnant women followed by health professionals; exclusions include incomplete questionnaires or mental disorders limiting participation. Multistage stratified sampling by region and urban/rural setting will be used, with random selection of centers and consecutive recruitment. Based on methodological standards (5-10 participants per item, 48 items), 240-480 women are required; 300 will be targeted. Data collection includes: (1) sociodemographic and clinical form; (2) the Arabic 48-item MHELIP (four dimensions: knowledge, information seeking, evaluation, decision/behavior); (3) HLS-SF12 for concurrent validity. Translation will follow Guillemin's forward-backward method with expert review. Analyses will use SPSS, with descriptive statistics, content validity (expert review, pre-test), concurrent validity (Pearson correlation), construct validity (confirmatory factor analysis with KMO and Bartlett tests), and reliability (Cronbach's alpha and test-retest). Ethics: Authorization will be obtained from the original authors, ethics committees, and health centers. Written informed consent, anonymity, and confidentiality will be ensured.

### Abstract 256: Sudden cardiac death due to myocardial rupture: a retrospective thanatological study over 22 years

Meddeb O, Gharsellaoui S, Anane S, Graiet R, Annabi K, Makni C, Kouada R, Ben Dhiab M

Department Of Forensic Medicine, Farhat Hached University Hospital, Sousse, Tunisia.

**Introduction:** Myocardial rupture is a serious mechanical complication of ischaemic heart disease and a classic cause of sudden cardiac death. Despite advances in diagnosis and treatment, it remains a fatal event, often the first sign and sometimes the only manifestation of an unrecognised myocardial infarction.

**Results:** The study covered a total of 28 cases of sudden death due to myocardial rupture. The average age of the subjects was 66.5 years (range 36-87 years), with a clear male predominance representing 85.7% of cases. The autopsy revealed that the main cause of death was tamponade following a ruptured left myocardial infarction, found in 26 cases (92.9%), while other aetiologies, such as right ventricular rupture secondary to arrhythmogenic dysplasia and atrial rupture, were noted in two cases. A history of cardiovascular disease was present in 96.4% of cases. Premonitory symptoms were noted in 71.4% of subjects, but only 17.9% had consulted a doctor before death.

**Conclusion:** Myocardial rupture remains a major cause of sudden death, most often linked to an unrecognised or poorly managed myocardial infarction. Autopsy examination makes it possible to determine its location, aetiology and contributing factors, thus providing a better understanding of

the mechanisms of sudden cardiac death.

### Abstract 257: Sudden Death in Young Individuals: A 22-Year Autopsy Study in Sousse, Tunisia

Graiet R, Annabi K, Meddeb O, Anane S, Ghrasellaoui S, Ben Dhiab M

Department Of Forensic Medicine, Farhat Hached University Hospital, Sousse, Tunisia.

**Introduction:** The Department of Forensic Medicine, Farhat Hached University Hospital, Sousse Sudden death is defined as a natural, unexpected, and abrupt death occurring within 24 hours of symptom onset in an apparently healthy individual.

**Methods:** This was a retrospective, descriptive, cross-sectional study including 314 cases of sudden death that occurred between 2000 and 2021. All cases were examined at the Department of Forensic Medicine, Farhat Hached University Hospital, Sousse.

**Results:** Sudden deaths among young individuals accounted for 3.46% of all autopsies performed during the study period. The mean age was 26.8 +/- 13 years, with a slight male predominance (51.3%). Most victims originated from rural areas (63.2%). Death occurred predominantly at rest (74.8%), at home (36.5%), and during the winter season (43.4%). Nearly half of the individuals (47%) had no known medical history. When present, comorbidities mainly included diabetes, congenital heart defects, and systemic diseases.

**Conclusion:** Sudden death in young individuals remains a significant cause of unexpected mortality, predominantly related to silent cardiac pathologies. Forensic autopsy provides essential diagnostic insights and plays a critical role in guiding family-based prevention strategies among at-risk populations.

### Abstract 258: Surgical Management Of Giant Hepatic Hemangiomas

Bouazzi A, Farhat W, Lagha S, Azri M, Mizouni A, Harrabi F, Ben Mabrouk M

Department of General Surgery, Sahloul University Hospital, Medicine Faculty of Sousse, University of Sousse, Sousse 4002, Tunisia

**Introduction:** Hepatic hemangiomas are the most common benign liver tumors and are usually asymptomatic. Surgical intervention is indicated in selected cases, including symptomatic lesions, rapid growth, rupture, hemorrhage, coagulopathy, or diagnostic uncertainty.

**Methods:** We retrospectively reviewed 12 patients who underwent surgery for giant hepatic hemangiomas between January 2000 and December 2025 at a tertiary referral center.

**Results:** The cohort included 10 women and 2 men, with a median age of 41.5 years. The median tumor size was 14.8 cm. Lesions were multiple in 50% of cases and bilobar in 25%. Surgical procedures consisted of five left lobectomies, two extended left hepatectomies including segment I, three right hepatectomies, and two enucleations. There was no postoperative mortality. One patient developed a postoperative suprahepatic hematoma managed conservatively. The mean length of hospital stay was six days (range 4-10 days).

**Conclusion** Surgical resection and enucleation of giant hepatic hemangiomas can be performed safely with excellent outcomes. The choice of surgical technique depends primarily on tumor size, location, and anatomical relationships.

### Abstract 259: Symptom Burden and Quality of Life in Young Adults with COPD: A Tunisian Cohort

Abdelmoula M<sup>1</sup>, Sayhi A<sup>1,2</sup>, Guezguez F<sup>1,2</sup>, Abdelhedi Y<sup>1</sup>, Ghannouchi I<sup>1,2</sup>, Rouatbi S<sup>1,2</sup>

1. Laboratory of Physiology and Functional Explorations, Farhat Hached University Hospital, Sousse, Tunisia;

2. University of Sousse, Faculty of Medicine of Sousse, Heart Failure Research Laboratory (LR12SP09), Sousse, Tunisia

**Introduction:** Chronic obstructive pulmonary disease (COPD) is increasingly recognized in young adults, significantly impairing their daily functioning and quality of life. Given the scarcity of data in North Africa, this study aimed to describe the functional characteristics, symptom burden, and quality of life of young Tunisian adults with early-onset COPD.

**Methods:** A cross-sectional study was conducted on patients aged 18 to 50 with COPD, confirmed by post-bronchodilator spirometry according to ERS/ATS 2019 standards. The variables analyzed included demographics, smoking history, childhood asthma, biomass exposure, and respiratory symptoms. Disease severity was evaluated using the predicted FEV1 percentage and the GOLD classification.

**Results:** Sixty-eight patients (median age: 42 years [35-46]; 69.1% male) were included. Active smokers comprised 51.5% of the cohort (median: 25 pack-years [10-34]). Biomass exposure affected 7.4%, while 35.3% had a history of childhood asthma and 19.1% reported a family history of airway disease. The median pre-bronchodilator FEV1 was 48.9% predicted [34.2-62.2], with 29.4% showing severe to very severe obstruction (FEV1 < 50% predicted). Symptom burden was substantial: the median CAT score was 21 [17-25], and 70.6% experienced severe dyspnea (mMRC ≥ 2). Higher cumulative tobacco exposure (≥ 20 pack-years) trended toward greater severity (35% vs. 29%), but this did not reach statistical significance (OR 1.3, 95% CI 0.43–3.97, p = 0.64).

**Discussion:** Young Tunisian adults with COPD endure a heavy symptom burden and severe functional impairment, highlighting the detrimental impact of early-onset disease. These findings underscore the critical need for targeted preventive strategies and early interventions to mitigate long-term disability. Larger cohort studies are warranted to better understand severity determinants and guide prevention in this population.

### Abstract EP 260: Systemic Gaps and Logistical Failures in the Deceased Organ Donation Pathway in Low-Resource Settings

Slama I<sup>1</sup>, Chouchene I<sup>1</sup>

1. Faculty of Medicine of Sousse, University of Sousse, Sousse, Tunisia;

2. Department of Intensive Care Unit, Farhat Hached University Hospital, Sousse, Tunisia

**Introduction:** Converting a potential organ donor into an actual donor requires a robust and efficient system, but this process is often hindered by systemic and logistical gaps in low-resource settings.

**Methods:** A pilot prospective multicenter study tracked the clinical trajectory of 104 severe coma patients. We analyzed the steps following the diagnosis of brain death (BD): BD confirmation (including ancillary testing), patient stability, approach to the family, and final organ procurement/harvesting. The focus was on identifying points of loss due to non-clinical, organizational factors.

**Results:** Of the 26 patients who progressed to BD, 9 (34.6%) did not undergo ancillary testing and were lost as potential donors due to hemodynamic instability or cardiac arrest. Among the 17 confirmed potential donors (PODs), 5 (29.4%) were

lost due to late-stage medical unsuitability or cardiac arrest during management. Critically, for two patients whose families consented to the donation, organ harvesting could not proceed due to the unavailability of an organ harvesting team.

**Conclusion:** Significant systemic and logistical failures (delayed BD diagnosis, loss of medically suitable donors due to instability, and lack of immediate surgical teams) severely limit the actual organ donation rate (17.6%). Urgent reform must prioritize the adoption of proactive donor management protocols and the strengthening of national transplantation logistics and personnel availability.

### Abstract 261: The 'Error Room': A Simulation-Based Tool for Patient Safety Training in Intensive Care

Chrigui R, Naouar N, Kissi K, Ajmi M, Gharbi R, Houichi E, Abida Y, Belaid M, Kahloul M, Naija W

Department of Anesthesia and Intensive Care Sahloul Teaching Hospital, Sousse, Tunisia

**Introduction:** Adverse events associated with healthcare are frequent, often serious, and closely linked to the human factor. Intensive care is no exception to this problem. To improve the safety of care and reduce medical errors, solutions have increasingly focused

**Methods:** This was a cross-sectional descriptive study conducted among third-year Anesthesia and Intensive Care students enrolled at the Private Higher Institute of Health Sciences during the 2020-2021 academic year, within the anesthesia and intensive care department of the university hospital center. A simulated patient room ("error room") was set up. Data collection sheets were distributed to record the detected errors.

**Results:** A total of 64 students participated in the study. On average, 12.7 errors were detected per student. Errors related to the preparation of the intensive care room were the most frequently detected (50.76%). In contrast, 21.30% identified errors related to the medication circuit, and 19.76% to infection control. However, participants paid little attention to patient identification errors (5.63%), and errors related to blood transfusion safety had the lowest detection rate (2.55%).

**Conclusion:** At the end of this study, we successfully implemented a simulated "error room" in the intensive care setting. In the future, it would be worthwhile to test this model with a larger number of participants, integrate it into the initial and continuing training programs for intensive care staff, expand it to other institutional sites, and potentially develop a "digital error room" requiring only computers

### Abstract EP 262: The Critical Role of Postoperative Intubation Time in Predicting Nosocomial Infections After Neonatal Atresia Repair

Tounsi MK<sup>1,2</sup>, Zouari M<sup>1,2</sup>, Belhajmansour M<sup>1,2</sup>, Jarbou O<sup>1,2</sup>, Ben Dhaou M<sup>1,2</sup>, Mhiri R<sup>1,2</sup>

1. Faculty of Medicine of Sfax, University of Sfax, Sfax, Tunisia;  
2. Department of pediatric surgery, Hedi Chaker University Hospital, Sfax, Tunisia

**Introduction:** Prolonged mechanical ventilation is a known risk factor for nosocomial infections (NIs) in neonates. Yet, its contribution to infection risk after digestive system atresia (DSA) repair remains poorly quantified. We aimed to assess whether extended postoperative intubation predicts postoperative NIs in these patients.

**Methods:** We retrospectively reviewed 181 neonates who underwent surgical repair of DSAs over a 10-year period. Postoperative intubation time was recorded, and NIs were defined per Centers for Disease Control and Prevention (CDC) criteria.

**Results:** One hundred eighty-one neonates underwent surgery for DSAs during the 10-year study period. The population included 87 males (48.1%) and 94 females (51.9%). The mean gestational age, 5-minute Apgar score, and birth weight were 36.5 +/- 2.7 weeks, 9.1 +/- 0.9, and 2560 +/- 718 g, respectively. Forty-three (23.8%) neonates had cardiac comorbidities. Esophageal atresia (n=105; primary anastomosis (n=99); stoma creation (n=6)) and duodenal atresia (n = 42; duodenoduodenostomy (n=37); duodenoplasty after web excision (n= 5) were the most common surgical conditions. Among the cohort, 103 neonates (56.9%) were born via cesarean section. Median intubation time was longer in the NI group compared with the non-NI group (48 h vs. 41 h, p<0.001). Prolonged intubation (>30 h) emerged as the strongest independent predictive factor of NIs (OR 5.669, 95% CI: 2.282-14.083; p<0.001).

**Conclusion:** Postoperative intubation beyond 30 hours is the most powerful predictor of NIs after neonatal DSA repair. Strategies aimed at minimizing ventilation duration, coupled with optimized respiratory care, could substantially reduce infection rates and improve outcomes in this vulnerable group.

### Abstract EP 264: The Impact of Sedentary Behavior and Poor Posture on Musculoskeletal Pain Among Students: A Cross-Sectional Study

Cherif M, Kalai A, Migaw H, Haddaoui F, Salah S, Boudokhane S, Jellad A, Ben Salah Z

Physical Medicine and Rehabilitation Department of the University Hospital of Monastir, Tunisia

**Introduction:** Postural disorders and musculoskeletal pain are common conditions among students, driven by sedentary behavior and inadequate postures associated with academic activities. The aim of our study was to analyze the relationship between hours spent in a seated position, poor postural habits, and the occurrence of lumbar and cervical musculoskeletal pain among students.

**Methods:** A 19-item online questionnaire was distributed to the students. The questionnaire covered three sections: socio-demographic data and lifestyle, quality and duration of seated postures (with self-evaluation illustrations), and musculoskeletal symptoms, including pain location, intensity assessed with visual analogue scale (VAS), frequency, duration, and impact on daily activities.

**Results:** Among the 129 participants, with an average age of 28+/-3 years and a female predominance (60.5%), the majority are university students (44.2%) and 51% do not engage in any sports activity. 33.3% of participants spent 4-6 hours sitting per day. 50% frequently adopted a posture with the back and neck leaning forward and asymmetrical shoulders, while 45% adjusted their posture. Most participants take 5 to 10-minute breaks every hour, but 60.5% do not use ergonomic support to improve their posture. 70% experience weekly pain, mainly in the neck, lumbar region, and shoulders, with a duration of less than 30 minutes and an average pain intensity of 3+/-2 on the visual analog scale (VAS). The activity most impacted is studying and sports.

**Conclusion:** This study emphasizes the role of posture and sedentary behavior in student musculoskeletal pain, highlighting the need for ergonomic education and physical activity.

### Abstract 265: The importance of bacteriology in forensic pathology: a 12-year retrospective study at Farhat Hached University Hospital in Sousse

Meddeb O, Zarrouk E, Makni C, Maatouk Y, Anane S, Kouada R, Graiet R, Marzouk M, Hannachi N, Ben Dhiab M

Department of forensic medicine, Farhat Hached university hospital, Sousse, Tunisia.

**Introduction:** Investigating deaths caused by infectious diseases is a major challenge in forensic medicine. Post-mortem microbiology, long underused, now plays an essential role in determining the cause of death. By identifying the responsible pathogens and distinguishing between true infections and contamination, it provides valuable diagnostic and forensic insights.

**Methodology and Objectives:** This retrospective descriptive study, conducted over twelve years (2013–2025) at the forensic medicine department of the Farhat Hached University Hospital in Sousse in collaboration with the microbiology laboratory, aimed to evaluate the contribution of post-mortem microbiology to the identification of infections responsible for death and to improve the forensic interpretation of the **Results.**

**Results:** The study looked at 94 cases of infectious deaths. The median age of patients was 38 years, with a predominance of males (64.9%). Those at the extremes of life were the most affected: children under 10 and individuals over 65 alone accounted for more than 40% of the study population. Respiratory infections were the leading cause of death (53.2%), followed by central nervous system infections (16%). A post-mortem bacteriological examination was performed in 46.8% of cases, totalling 88 samples. Of these, 31.4% yielded a positive culture. The most frequently identified organisms were *Streptococcus pneumoniae* (29.6%), *Escherichia coli* (14.8%) and *Acinetobacter baumannii* (11.1%).

**Conclusion:** Post-mortem microbiology is a major diagnostic and forensic tool, enabling confirmation of the infectious aetiology of deaths and differentiation between genuine infections and post-mortem contamination. Interpreted in conjunction with autopsy and histological data, it reinforces the reliability of expert **Conclusions.**

### Abstract 266: The interest of high-fidelity simulation in the management of severe traumatic brain injury in adults

Msallem M<sup>1</sup>, Chrigui R<sup>1</sup>, Trad C<sup>1</sup>, Chouchene C<sup>1</sup>, Belaid M<sup>1</sup>, Hajji R<sup>1</sup>, Rjiba G<sup>1</sup>, Dahmane S<sup>2</sup>, Kahloul M<sup>1</sup>, Naija W<sup>1</sup>

1. Department of Anesthesia and Intensive Care Sahloul Teaching Hospital, Sousse, Tunisia;

2. Higher School of Health Sciences and Technologies of Monastir, Tunisia

**Introduction:** Severe traumatic brain injury (TBI) is a major cause of morbidity and mortality, requiring rapid and effective management. Traditional teaching Methods may be limited in preparing students for high-risk scenarios. High-fidelity medical simulation allows students to practice critical decision-making and technical skills in realistic, risk-free conditions, enhancing learning and confidence. This study aims to evaluate the impact of high-fidelity simulation on theoretical knowledge and student satisfaction in anesthesia-resuscitation training.

**Methods:** A pre-experimental study was conducted in 2023-2024 with third-year anesthesia-resuscitation students at the Higher School of Health Sciences and Techniques who consented to participate. Two questionnaires were used: one assessed theoretical knowledge of TBI management based on the 2016 SFAR guidelines, and the other measured satisfaction after the simulation, according to the HAS guide. A non-probability convenience sampling was applied. The primary outcome was the improvement in post-test scores compared to pre-test **Results.**

**Results:** Twenty-five students completed the study. Post-test **Results** demonstrated a significant improvement in theoretical knowledge, with the average number of correct answers increasing from 6.66 +/- 2.03 to 11.41 +/- 1.76. Most students reported high satisfaction with the session, appreciating its organization, learning environment, scientific content, and educational value.

**Conclusion:** High-fidelity simulation enhances knowledge acquisition, reinforces learning, and promotes reflective thinking without risk to patients. Incorporating simulation into anesthesia-resuscitation curricula provides an effective pedagogical approach for improving both theoretical understanding and practical preparedness in TBI management.

### Abstract 267: The interest of simulation in improving knowledge on advanced cardiopulmonary resuscitation in adults: a prospective observational study

Ketata S, Derbel R, Ben Ayed M, Keskes M, Mtibaa A, Abdelmoula Z, Gargouri M, Ben Amar M, Zouche I, Cheikhrouhou H

Simulation Department of Sfax Medical School and the anesthesia and clinical care department in Habib Bourguiba Hospital of Sfax, Tunisia

**Introduction:** Medical simulation has become an essential teaching method for all healthcare professionals over the past few years. It is recommended and encouraged and is suitable for both initial training and for maintaining theoretical knowledge and acquired skills.

**Methods:** This is a prospective, observational, descriptive, and analytical study using matched samples, conducted at the Sfax Higher School of Health Sciences and Technology, including anesthesia and intensive care students. First, all learners attended a theoretical course on cardiopulmonary resuscitation. Second, they participated in a simulation session. **Results:** We included 32 learners. Before the simulation session, all learners felt they had well assimilated the principles of patient care in ACR. For the pre-test, the average score was 8.15 +/- 2.49 / 20 points and for the post-test, the average score was 15.46 +/- 2.29 / 20 points. There was a statistically significant difference between the pre-test and the post-test ( $p < 0.001$ ).

**Conclusion:** Simulation appears to be an interesting educational method facilitating the acquisition and retention of theoretical knowledge on advanced cardiopulmonary resuscitation in adults.

### Abstract 268: The interest of simulation in learning cricothyrotomy: a prospective observational study

Ketata S, Ben Ayeyd M, Derbel R, Kekes M, Mtibba A, Abdelmoula Z, Gargouri M, Zouche I, Ben Amar M, Cheikhrouhou H

Simulation Department of Sfax Medical School and the anesthesia and clinical care department in Habib Bourguiba Hospital of Sfax, Tunisia

**Introduction:** Cricothyrotomy or FONA (Front of neck airway) is a rare and simple lifesaving procedure. Our study aimed to

evaluate the learning of cricothyrotomy intensive care residents by procedural simulation using the trachea of sheep covered with skin.

**Methods:** We conducted a prospective observational study including intensive care residents. After the demonstration of the cricothyrotomy technique on a sheep trachea covered with skin, all the learners made 2 attempts to perform it. Each attempt was evaluated according to a Done/Not Done grid for each step.

**Results:** We included 34 learners. Before the simulation session, 44.1% of learners had theoretical knowledge of cricothyrotomy, but none felt able to practice it in an emergency. After the session, all the learners felt they were able to perform cricothyrotomy without hesitation in the face of a real emergency situation. The comparison between the 2 learners' attempts showed that there was a significant improvement in learning the technique.

**Conclusion:** Procedural simulation using a sheep trachea covered with skin seems an interesting alternative to learn cricothyrotomy.

### Abstract 270: The Role of Artificial Intelligence in Improving Work Posture

Kacem I<sup>1,2</sup>, Belaid N<sup>3</sup>, Aloui A<sup>1,2</sup>, Bouhoula M<sup>1,2</sup>, El Maalel O<sup>1,2</sup>

1. Occupational Medicine Department, Farhat Hached Teaching Hospital, Sousse, Tunisia;

2. Faculty of Medicine of Sousse, University of Sousse, 4000 Sousse, Tunisia;

3. Occupational medicine group of Sousse, Tunisia

**Introduction:** Musculoskeletal disorders (MSDs) represent a major public and occupational health concern, particularly in the textile industry, where repetitive tasks and prolonged static postures are common. Although ergonomic awareness sessions are frequently implemented, their effectiveness is often poorly documented.

**Methods:** This descriptive, cross-sectional, observational study was conducted among 10 seamstresses employed at a textile company in Sousse, Tunisia. The Nawo Smart application, which utilizes real-time skeleton recognition algorithms, was employed to objectively evaluate working posture. An ergonomic score ranging from 1.5 (optimal posture) to 6 (poor posture) served as the primary outcome measure.

**Results:** At baseline, the median ergonomic score was 5.75, indicating consistently poor posture across the cohort; all participants reported joint pain. Although ergonomic scores tended to increase with age and job seniority, these associations did not reach statistical significance. Following the awareness session, the median score decreased significantly to 2.5 ( $p = 0.007$ ), reflecting a substantial improvement in postural hygiene equivalent to a 56% reduction in ergonomic risk. The most pronounced improvements were observed among older employees.

**Conclusion:** This study demonstrates that a brief ergonomic awareness session, augmented by AI-driven feedback via the Nawo Smart application, can lead to a statistically significant and meaningful improvement in workplace posture among seamstresses. The integration of AI tools offers a practical, objective, and scalable approach to MSD prevention in high-risk occupational settings.

### Abstract 271: The Role of Error Room Simulation in Assessing Continuing Education on Task Interruptions in Anesthesia Practice

Naouar N<sup>1</sup>, Belbahri A<sup>1</sup>, Ben Khedher H<sup>1</sup>, Houichi I<sup>1</sup>, Ajmi M<sup>1</sup>, Houichi H<sup>1</sup>,

Abida Y<sup>1</sup>, Dahmane S<sup>2</sup>, Chaouch A<sup>1</sup>, Naija W<sup>1</sup>

1. Department of Anesthesia and Intensive Care, Sahloul Teaching Hospital, Sousse, Tunisia;

2. Higher School of Health Sciences and Technologies of Monastir, Tunisia

**Introduction:** Task interruptions (TI) are frequent and potentially harmful events in anesthesia practice, as they may compromise patient safety and performance efficiency. Reducing their occurrence requires both awareness and targeted training for healthcare professionals.

**Methods:** A pre-experimental interventional study was conducted in the Department of Anesthesia and Intensive Care at Sahloul University Hospital, Sousse. The intervention consisted of an in-situ simulation video designed as an "Error Room," where common and critical task interruptions were deliberately integrated during various stages of anesthesia: operating room preparation, patient interview, anesthetic induction, and documentation.

**Results:** A total of 32 participants were included (participation rate 47.05%), predominantly female (93.75%), with a mean age of 34 +/- 6 years. Most had more than 15 years of professional experience (62.5%) and none had previously attended formal training on task interruptions. The highest detection rates were observed for errors related to operating room preparation, such as incomplete intubation trays and disorganized induction tables (both 81.25%).

**Conclusion:** The "Error Room" simulation video proved to be a valuable educational approach to enhance theoretical knowledge, situational awareness, and error recognition regarding task interruptions in anesthesia practice. Beyond improving individual competencies, this innovative tool fosters a culture of patient safety and teamwork within the operating room environment. Integrating such simulation-based learning into ongoing training programs may significantly reduce preventable errors and strengthen the quality and safety of anesthetic care.

### Abstract 272: The value of the plethysmography variability index (PVI) in the management of acute septic states in the emergency department

Jaballah R, Boukef R, Boukadida L, Boukriaat T, Hlimi K, Yaakoubi H, Bekir A, Ben Salah H, Zorgati A

Emergency Department, Sahloul University Hospital, Sousse, Tunisia

**Introduction:** Identifying the risk of sepsis in the emergency department is a crucial step in its management. Recent scientific data demonstrate the critical importance of early treatment.

**Methods:** This is a prospective, analytical study including all patients aged 18 years or older who presented to the emergency department with acute sepsis. All patients were wearing standard non-invasive monitoring equipment, including a Masimo Radical 7 pulse oximeter. We will monitor the patients' clinical and biological evolution along with the evolution of the PVI (Pulse Visibility Index).

**Results:** During the study period from January 2023 to June 2023, we included 200 patients. The mean age was 65 +/- 14 years. There was a male predominance. The SOFA score was 3 +/- 2 in the good prognosis group versus 5 in the group with a better prognosis. +/-2 in the poor prognosis group, with a significant difference between the two groups ( $p < 0.01$ ).

**Conclusion:** The PVI allows for the assessment of the patient's condition hemodynamics and predict patient prognosis during the management of acute septic states in the emergency department.

### Abstract 273: Therapeutic Adherence in Hemodialysis Patients: Assessment Using the ESRD-AQ and Perspectives for Improvement

Hmila A, Dahmane R, Mattoussi N, Zguem A, Dziri S, Fradi A, Ben Amor S, Guedri Y, Zellama D

Nephrology, Dialysis and Renal Transplantation Department, Sahloul Hospital, Sousse, Tunisia

**Introduction:** Therapeutic adherence is a key component of optimal care in hemodialysis patients. Despite its importance, adherence often remains suboptimal due to treatment-related constraints, lifestyle habits, and insufficient therapeutic education. Assessing adherence helps identify areas requiring targeted interventions to improve clinical outcomes.

**Methods:** A descriptive cross-sectional study was conducted in November 2025 in our hemodialysis unit. Sixteen patients completed the "medical treatment" section of the End-Stage Renal Disease Adherence Questionnaire (ESRD-AQ). Scores were calculated according to the official scoring guidelines.

**Results:** Most participants were women (62.5%) with a mean age of 42.8 years  $\pm$  15.3 (range 23-71). The mean duration on hemodialysis was 12.1  $\pm$  7.6 years (range 2.4-25.4). The mean overall adherence score was 606.3  $\pm$  197.8 (range 300-1050). Three patients (19%) demonstrated good adherence (score > 800), while five (31%) exhibited poor adherence (score < 500). Regarding specific dimensions, 44% of patients scored  $\leq$  50 points for missed-session frequency, indicating recurrent absences.

**Conclusion:** Therapeutic adherence among hemodialysis patients remains generally insufficient, particularly concerning session attendance and medication intake. Strengthening therapeutic education and implementing individualized follow-up strategies appear essential to improve adherence and reduce the risk of complications.

### Abstract 274: Therapeutic Education In Coronary Patients: Results In Terms Of Smoking Cessation

Ghali H<sup>1</sup>, Meddeb T<sup>1,2</sup>, Ftis S<sup>1</sup>, Mehrezi M<sup>1</sup>, Bhiri S<sup>1</sup>, EL Haddad N<sup>1</sup>, Balhi S<sup>1</sup>, Ben Cheikh A<sup>1</sup>, Said Laatiri H<sup>1</sup>

1. Preventive and Community Medicine Department, Sahloul University Hospital of Sousse, Faculty of Medicine of Sousse, University of Sousse, Tunisia

2. Ibn al Jazzar University Hospital of Kairouan, Tunisia

**Introduction:** Coronary artery disease is a chronic condition whose management is primarily based on balancing cardiovascular risk factors. One main factor is the smoking cessation support, which is a key component of therapeutic patient education (TPE) for coronary artery disease patients; an essential tool in the management of chronic diseases.

**Methods:** This is a descriptive cross-sectional study with an analytical focus, involving coronary patients who smoke and attended the smoking cessation consultation at Sahloul University Hospital between 2015 and 2022. We defined cessation as complete and continuous abstinence for one week and for 12 months or more. Data entry and analysis were performed using SPSS 25 statistical software.

**Results:** In our study, the prevalence of smoking cessation among coronary patients was 23.36% (n=32) at one week and 18.25% (n=25) at one year. Univariate analysis revealed that a number of consultations  $\geq$  3 and the degree of self-confidence were significantly associated with successful smoking cessation at one week. Furthermore, a motivation score  $\geq$  12 and

participation in more than 3 consultations showed a significant association with successful smoking cessation at 12 months. Multivariate analysis identified an age of smoking initiation over 15 years and a number of consultations  $\geq$  3 as independent factors associated with successful cessation at one week.

**Conclusion:** The evaluation of the profile of coronary patients attending the smoking cessation consultation and the effectiveness of their care revealed that the cessation rate is comparable to, or even higher than, that of other studies.

### Abstract 275: Enhancing Research Engagement: Insights from Early-Career Physicians in Tunisia

Khechini O, Chakroun H, Bannour I, Kharrat I, Fhima F, Souii S

Faculty of Medicine of Sousse, University of Sousse, Tunisia

**Introduction:** Developing strong research competencies is essential for advancing medical practice. However, early-career physicians frequently encounter challenges that may hinder their active involvement in scientific work.

**Methods:** A descriptive cross-sectional study was carried out among 40 early-career physicians from different medical institutions in Tunisia. The questionnaire collected information on academic status, prior research activity, scientific output, and perceived facilitators or obstacles using a 5-point Likert scale. Data were analyzed using basic descriptive statistics.

**Results:** Participants had a mean age of 33.7  $\pm$  4.8 years, and 58% were women. The sample included 50% residents, 35% assistant lecturers, and 15% senior faculty members. While 80% reported involvement in at least one research project, only 60% had published in peer-reviewed journals. The most frequently cited difficulties were limited access to research resources (4.0  $\pm$  0.9), administrative workload (3.9  $\pm$  1.1), and challenges in statistical analysis (3.6  $\pm$  1.0). Issues such as English proficiency (2.5  $\pm$  1.0) and networking opportunities (2.8  $\pm$  1.1) were less influential.

**Conclusion:** Resource availability, administrative burden, and technical skills-particularly in data analysis-emerge as the main barriers to research involvement. Strengthening institutional infrastructure and reinforcing methodological training may significantly boost research productivity among young physicians.

### Abstract 276: Scientific Output and Training Needs Among Junior Medical Doctors in Tunisia

Khechini O, Kharrat I, Ghzel R, Twil A, Chakroun H, Souii S

Faculty of Medicine of Sousse, University of Sousse, Tunisia

**Introduction:** Active involvement in research is a key component of professional advancement in academic medicine. Understanding the research output of junior physicians can guide efforts to strengthen research capacity. To evaluate the research activities, scholarly output, and perceived training needs of early-career physicians in Tunisia.

**Methods:** A descriptive survey was administered to 40 junior physicians across several Tunisian medical institutions. The questionnaire covered demographic characteristics, previous research involvement, types of scientific output, and areas where additional support was desired. Data were summarized using frequencies and percentages.

**Results:** Participants had a mean age of 33.5  $\pm$  4.6 years, and 57% were female. The group included residents (48%), assistant lecturers (37%), and faculty members (15%). Seventy-eight percent had previously contributed to at least one research

project. Scientific production included dissertations (65%), poster presentations (60%), and peer-reviewed manuscripts (45%). A large majority (88%) identified a need for further training, particularly in research methodology, academic writing, and data analysis. Interest in structured mentorship programs was reported by 90% of respondents.

**Conclusion:** While early-career physicians demonstrate notable involvement in research, gaps remain in methodological skills and structured guidance. Strengthening mentorship systems and providing targeted training may improve research productivity and long-term academic development.

### Abstract 277: Environmental Surveillance and Molecular Characterization of Multidrug-Resistant *Klebsiella pneumoniae*: A Tripartite Collaboration Following a Hospital Outbreak

Azaiez S<sup>1</sup>, Kachroub Mahjoub A<sup>1</sup>, Ammar A<sup>2</sup>, Tilouche S<sup>3</sup>, Haenni M<sup>4</sup>, Mansour W<sup>1</sup>

1. Faculty of Medicine Ibn Jazzar, University of Sousse, Research Laboratory LR12ES02, Tunisia;
2. Department of Hospital Hygiene, Farhat Hached University Hospital, Sousse, Tunisia;
3. Department of Pediatrics, Farhat Hached University Hospital, Sousse, Tunisia;
4. ANSES - University of Lyon, Bacterial Antibiotic Resistance and Virulence Unit, Lyon, France

**Introduction:** Antimicrobial resistance (AMR) is a critical global health threat with increasing impact on clinical outcomes and healthcare systems. In 2023, a hospital outbreak involving multidrug-resistant *Klebsiella pneumoniae* (MDR-Kp) was identified in a University Hospital in Sousse, Tunisia.

**Methods:** A comprehensive environmental screening campaign was conducted in the affected wards. Samples were collected from staff hands, high-touch medical devices, sinks and water points, and surrounding surfaces. Isolates were cultured, identified, and subjected to antibiotic susceptibility testing according to international standards. Advanced molecular analyses-including PCR detection of resistance determinants and pulsed-field gel electrophoresis (PFGE)-were performed at the French partner laboratory as part

**Results:** Multiple MDR-Kp isolates were recovered from various environmental sites, illustrating widespread contamination across the clinical ecosystem. Phenotypic assays revealed extensive multidrug resistance patterns, including carbapenemase activity. PFGE analysis demonstrated strong clonal relatedness between specific environmental isolates and those obtained from colonized or infected patients, indicating probable cross-contamination events and environmental persistence contributing to ongoing transmission.

**Conclusion:** This work underscores the importance of coordinated, multidisciplinary collaboration in responding to AMR outbreaks. By combining clinical expertise, environmental microbiology, and high-resolution molecular tools, the project provides critical insights into MDR-Kp circulation within hospital environments. Beyond addressing an immediate public health emergency, this initiative exemplifies how locally rooted problems can catalyze broader translational research efforts, promote technology transfer, and reinforce international partnerships in the field of global health and antimicrobial resistance.

### Abstract EP 278: Transforming data collection and surveillance around maternal and neonatal health among migrants in the MENA region "Tunisia experiences "

Ouahchi A<sup>1</sup>, Maatoug T<sup>1</sup>, Assarag B<sup>2</sup>, Mtiraoui A<sup>1</sup>, Mansour W<sup>1</sup>, Zenner D<sup>3</sup>, Evangelidou S<sup>4</sup>

1. Faculty of Medicine of Sousse, University of Sousse, Tunisia
2. National School of Public Health, Ministry of Health Rabat, Morocco
3. Queen Mary and Barts Health TB Centre, Blizard Institute, Queen Mary University London, London, United Kingdom
4. Barcelona Institute for Global Health (ISGlobal, University of Barcelona), Spain

**Introduction:** Migrant women in MENA Region encounter substantial barriers in accessing healthcare services; yet empirical evidence in this context remains scarce. In Tunisia, although existing policy frameworks endorse healthcare rights for migrants, undocumented women continue to experience significant barriers.

**Methods:** The methodology used included the following steps: 1- Conducting a systematic review on maternal and neonatal health and access to health services in the MENA region. 2- Conducting three qualitative studies. - The first study primarily involved migrant population (men, women, and religious leaders) and representatives of civil society.

**Results:** The systematic review revealed inadequate prenatal care, delayed access to healthcare, and maternal and neonatal complications. The first qualitative study findings revealed barriers affecting migrant maternal health care. The second study identified the three delays to care. The third qualitative study, revealed three intersectional themes: (1) Structural vulnerabilities (2) Gender-based violence and reproductive coercion, and (3) Psychosocial consequences. The Results from the systematic review and qualitative studies were integrated through cross-analysis and thematic triangulation.

**Conclusion:** Ultimately, the aim is to generate useful data to help researchers, healthcare professionals and policymakers better identify inequalities in access to care and contribute to more inclusive health policies in the MENA region.

### Abstract 279: Trends in Antimicrobial Resistance Among *Streptococcus pneumoniae* Isolated from Respiratory Tract Infections

Mallek N, Maatouk Y, Zaibi O, Azouzi F, Miladi H, Kahloul A, Marzouk M, Hannachi N

Microbiology Laboratory; Farhat Hached University Hospital; Sousse, Tunisia

**Introduction:** *Streptococcus pneumoniae* is a major pathogen responsible for a wide spectrum of respiratory tract infections. Over recent decades, the emergence and spread of antibiotic-resistant pneumococcal strains have become a global public health concern.

**Methods:** A 4-year retrospective descriptive study (2021-2024), including all *S. pneumoniae* strains, isolated from low respiratory tract specimens. Bacterial identification was performed by conventional Methods. The antibiotic susceptibility testing was performed according to the guidelines of the CA-SFM/EUCAST.

**Results:** Out of 1125 positive respiratory cultures, 45 (4%) were positive for *S. pneumoniae*, of which, 47.8% were tracheal aspirates, 39.1% were sputum, and 10.9% were bronchoalveolar lavage specimens. The population was mainly composed of men (sex ratio M/F = 3.5). A significant proportion were adults (86.6%), and the majority came from intensive care units (ICU) (48.8%), followed by Pulmonology Department (33.3%) and

Pediatrics Department (13.3%). The isolates showed high levels of resistance to several commonly used antibiotics.

**Conclusion:** This study highlights a concerning level of antimicrobial resistance in *Streptococcus pneumoniae* isolated from respiratory infections, particularly to beta-lactams and macrolides. These findings underscore the need for continuous surveillance and the reinforcement of antibiotic stewardship strategies to ensure effective empirical therapy in our setting.

### Abstract 280: Trends of Healthcare-Associated Infections at Sahloul University Hospital, Associated Factors, and Impact of the COVID-19 Pandemic

Meddeb T, Ghali H, Balhi S, Mehrezi M, El Hadded N, Bhiri S, Ben Cheikh A, Said Laatiri H

Preventive and Community Medicine Department, Sahloul University Hospital of Sousse, Faculty of Medicine of Sousse, University of Sousse, Tunisia

**Introduction:** Healthcare-associated infections (HAIs) constitute a major public health problem due to the morbidity and mortality they cause. During the COVID-19 pandemic, the implementation of infection control protocols appears to have reduced the rate of HAIs, according to several

**Methods:** This was a descriptive cross-sectional study with an analytical design, using annual point-in-time HAI prevalence surveys conducted from 2012 to 2021 at Sahloul University Hospital. Data collection was based on the NosoTun plug (a national survey on HAI prevalence).

**Results:** 2,957 patients were included. A total of 289 infected patients (9.8%) and 319 HAIs (10.8%) were identified. We found an overall trend of decreasing HAI prevalence, from 12.3% in 2012 to 10.1% in 2021 ( $p=0.03$ ). From 2019 to 2021, there was an overall trend toward an increase in the prevalence of healthcare-associated infections (HAIs), rising from 9.5% in 2019 to 9.6% in 2021 ( $p=0.99$ ). HAIs were significantly more frequent in intensive care units (OR 7.8).

**Conclusion:** This study found a general trend toward a decrease in healthcare-associated infections (HAIs) at Sahloul University Hospital, with a non-significant increase during the pandemic. Analysis of associated factors highlights the importance of prevention protocols. Continuous surveillance is essential to optimize the fight against HAIs and reduce their impact on the healthcare system.

### Abstract 281: Trichoscopy of tinea capitis in children: a case series of 190 patients

Fourat A<sup>1</sup>, Souissi A<sup>2</sup>, Ghariani Fetoui N<sup>1,3</sup>, Mkhinini H<sup>1,3</sup>, Mokni S<sup>1,3</sup>, Sahli J<sup>3</sup>, Aounallah A<sup>1,3</sup>, Ghariani N<sup>1,3</sup>, Denguezli M<sup>1,3</sup>

1. Dermatology department of Farhat Hached Hospital, Sousse, Tunisia  
2. Dermatology department, La Rabta hospital, Tunis; Tunisia  
3. Faculty of Medicine of Sousse, University of Sousse, Tunisia

**Introduction:** Tinea capitis (TC) is the most common pediatric fungal infection, with a rising global incidence. While mycological culture remains the diagnostic gold standard, trichoscopy provides a rapid, painless alternative. However, evidence correlating specific trichoscopic criteria with distinct fungal species remains limited.

**Methods:** This study evaluated 190 children to investigate these clinico-mycological correlations. Clinical assessments documented plaque count, size, and morphology. Direct mycological examinations and cultures were performed alongside detailed trichoscopic evaluations to link specific hair

shaft abnormalities with the causative fungal agents.

**Results:** The mean age was 6.81 years (M/F ratio: 2.65). Patients averaged 3.16 plaques (mean size: 4.16 cm). Plaques were predominantly scaly (88.94%) and alopecic (85.78%), with some showing erythema (43.15%), crusts (29.45%), or kerion (3.15%). Direct mycology was positive in 92.11%. *Microsporum canis* was the primary agent (84.21%), followed by *Trichophyton violaceum* (11.57%). Trichoscopically, corkscrew hairs were significantly associated with *Trichophyton* ( $p = 0.013$ ), while Morse code-like hairs ( $p < 0.001$ ) and zigzag hairs ( $p = 0.043$ ) correlated significantly with *Microsporum* infections.

**Conclusion:** Our findings confirm that microsporic and trichophytic TC exhibit distinct trichoscopic features. Purely endothrix infections (*Trichophyton*) deform the hair shaft without altering color, presenting as comma and corkscrew hairs. Conversely, ectothrix infections (*Microsporum*) cause shaft pallor and transverse fractures, resulting in Morse code and zigzag hairs. Exceptions exist due to mixed parasitism, which explains polymorphic patterns in certain patients. A combination of these specific signs is essential, confirming trichoscopy as a highly valuable tool for diagnosing TC and predicting the responsible fungi.

### Abstract 283: Ultrasound Evaluation of Arteriovenous Fistulas: Analysis of Anatomical Determinants and Blood Flow in a Cohort of 54 Hemodialysis Patients

Baccouche I<sup>1</sup>, Hasni I<sup>1</sup>, Ben Afia A<sup>1</sup>, Dahmane R<sup>2</sup>, Hmila A<sup>2</sup>, Messaoudi I<sup>1</sup>, Dahmoul A<sup>1</sup>, Zguem A<sup>2</sup>, Guedri Y<sup>2</sup>, Zallama D<sup>2</sup>, Hasni I<sup>1</sup>

1. Department of Radiology, Sahloul University Hospital, Sousse, Tunisia  
2. Department of Nephrology, Sahloul University Hospital, Sousse, Tunisia

Arteriovenous fistulas (AVFs) are the preferred vascular access for hemodialysis because of their durability and lower complication rate compared with other access types. Their performance, however, depends on several anatomical and hemodynamic factors that can be assessed using Doppler ultrasound. This study aims to describe the anatomical characteristics of AVFs and evaluate blood flow according to fistula type. We conducted an observational study including 54 hemodialysis patients with AVFs. Collected data included age, sex, type of fistula, arterial diameter, anastomotic diameter, and Doppler-measured blood flow (mL/min). A descriptive analysis was performed, followed by a comparison of blood flow between the different fistula types. A total of 54 patients were included (28 men and 26 women), with a mean age of 50.7  $\pm$  14.1 years (range: 27-75). The most frequently represented AVF types were radiocephalic and brachiocephalic fistulas. Mean anastomotic diameter was 5.1 mm, and mean arterial diameter was 5.7 mm. Average AVF blood flow was 1182 mL/min, ranging from 40 to 5000 mL/min. A significant variability in blood flow was observed across fistula types, suggesting the influence of anatomical territory on hemodynamic performance. This study highlights marked inter-individual anatomical variability in AVFs among hemodialysis patients. These morphological differences have a direct impact on Doppler-measured blood flow. Ultrasound therefore plays a crucial role not only in monitoring AVF integrity, but also in anticipating their ability to sustain effective hemodialysis. Further statistical analyses are underway to determine which anatomical determinants best predict AVF maturation and long-term functionality.

### Abstract 284: Unraveling the Genetic Architecture of Non-Syndromic Intellectual Disabilities in a Tunisian Cohort Using a Tiered Genomic Approach

Chouk H<sup>1,2,3</sup>

Department of Genetics;

Research Laboratory of Cytogenetics, Molecular Genetics and Reproductive Biology (LR03SP02) University Hospital Farhat Hached of Sousse, Tunisia;  
Ministry of Higher Education and Scientific Research, Tunisia  
Non-Syndromic Intellectual Disabilities (NSID) constitute a major diagnostic challenge in Tunisia, where high consanguinity contributes to increased genetic heterogeneity and complicates the identification of underlying etiologies. To enhance diagnostic accuracy, a structured, genetic workflow was implemented to systematically investigate the molecular causes of NSID. A multicentric study of a cohort of Tunisian patients underwent a comprehensive sequential evaluation. Initial analyses targeted the most frequent causes, including chromosomal abnormalities, Fragile X syndrome assessed by CG-rich PCR, and recurrent microdeletion syndromes screened using MLPA. This strategy effectively stratified cases and enabled the rigorous selection of unresolved patients for advanced genomic testing. Genomic DNA from these selected patients was subsequently prepared for Exome Sequencing (ES). The analysis and interpretation of the resulting NGS data will be performed using our in-house bioinformatic pipeline designed to deliver high-confidence variant calling, annotation, prioritization, and classification, with sensitivity to population-specific genetic features. Preliminary observations reveal marked clinical variability, underscoring the importance of deep genomic interrogation through ES. In **Conclusion**, this tiered genetic approach combining classical cytogenetic and molecular genetics with high-throughput sequencing interpreted through our in-house pipeline provides a robust framework to refine the etiological diagnosis of NSID in Tunisia and contributes to the establishment of a population-adapted genetic reference database.

### Abstract 285: Vesicoureteral reflux in infants: Characteristics, management, and outcomes

Kharrat S, Belhaj Mansour M, Tounsi K, Ben Dhaou M, Mhiri R

Pediatric Surgery Departement Hedi Chaker University Hospital, Sfax, Tunisia

**Introduction:** Vesicoureteral reflux (VUR) is the most common congenital anomaly of the urinary tract in children. It is usually diagnosed after a urinary tract infection or during the evaluation of congenital anomalies of the kidney and urinary tract.

**Methods:** A retrospective review was conducted of patients followed for VUR in the Departments of Pediatric Surgery and Neonatology in Sfax over an 11-year period (2010-2021). Patients with secondary VUR or incomplete data were excluded.

**Results:** Seventy-two infants were included: 58 males (80.5%) and 14 females (19.5%). Antenatal diagnosis was made in 31% of cases. Urinary tract infection was the most common presenting feature (83.3%). Renal ultrasound suggested the diagnosis in 90% of cases. Voiding cystourethrography revealed bilateral VUR in 41 patients (57%) and unilateral VUR in 31 (43%). High-grade reflux (grades IV-V) was observed in 58% of males and 55% of females.

**Conclusion:** Despite widespread use of prenatal ultrasound screening, many infants are still diagnosed with VUR only after

a urinary tract infection. VUR in infants is frequently high-grade and may affect the upper urinary tract, often requiring surgical management. Long-term follow-up is essential to monitor renal function and prevent scarring.

### Abstract 286: Violence perpetration and violence victimization among elderly caregivers of patients with mental disorders

Barouni L, Saguem BN, Cheour M, Nakhli J

Psychiatry Department, Farhat Hached Hospital, Faculty of Medicine of Sousse, University of Sousse, RL12ES04, Sousse, Tunisia

**Introduction:** This study aimed to evaluate the prevalence of violence victimization and violence perpetration among elderly caregivers of patients with mental illness, and to determine their associated factors.

**Methods:** A cross-sectional study was conducted at the Psychiatry Department of Farhat Hached Hospital, Sousse. To be enrolled in the study, caregivers should be (1) aged 65 years and over, (2) the main care provider for the patient for at least one year, (3) provide informed consent to take part in the study. Data were collected during a semi-structured interview.

**Results:** The study included 85 elderly caregivers of patients with mental illness with a median age of 67 years (range: 65-86), and a gender ratio of 0.54. Caregivers were mostly parents to the patients (75.3%), adult children (9.4%), siblings (9.4%), and spouses (5.9%). The median scores were 16 (IQR: 12.5-24) for the Zarit Burden Interview (ZBI), 12 (IQR: 8-21) for depression, and 6 (IQR: 2-12) for anxiety.

**Conclusion:** Violence victimization and violence perpetration are common among elderly caregivers of patients with mental illness. The high prevalence of violence demonstrates the crucial need of violence prevention in order to reduce caregiving burden and psychological distress among elderly caregivers.

### Abstract 287: Which factors are associated with clinical learning motivation among undergraduate medical students?

Douss N, Ammar A, Omri N, Mahjoub M

Hospital Hygiene department, Farhat Hached University Hospital of, Faculty of Medicine of Sousse, University of Sousse (Tunisia)

**Introduction:** Motivation is a key determinant of effective clinical learning (CL) and professional development in medical education. Understanding factors associated with motivation during clinical clerkships may help improve the quality of the clinical learning environment. Our study aimed to find associated factors to medical students motivation in clinical learning environment .

**Methods:** A cross sectional study was conducted in the FMS, among undergraduate medical students from October to November 2022 using a self-administered questionnaire. We used the Motivation section of the French version of the Motivated Strategies for Learning Questionnaire (MSLQ), to measure motivation for CL. Descriptive statistics and comparative analyses were performed to identify factors associated with motivation.

**Results:** We gathered 169 students' responses with mean age 22.34 +/- 1.2 years. Motivation global score was medium (4.66 +/- 0.9). No significant differences in motivation were observed across academic levels. Higher intrinsic goal orientation, task value, and self-efficacy were significantly associated with excellent clinical learning evaluations. Opportunities to apply theoretical knowledge were linked to higher task value

( $p=0.003$ ), control beliefs ( $p<0.001$ ), and self-efficacy ( $p=0.041$ ). Perceived supervisor availability was associated with increased task value ( $p<0.001$ ), control beliefs ( $p=0.005$ ), and self-efficacy ( $p=0.004$ ). Well-prepared supervisors were consistently associated with higher motivation across multiple subscales ( $p<0.05$ ).

**Conclusion:** Students' motivation for clinical learning is strongly associated with the quality of supervision and opportunities for active clinical engagement. Enhancing supervisory support and facilitating theory-to-practice integration may significantly improve motivation during clinical clerkships.

### Abstract 288: Work-Related Musculoskeletal Disorders Among Tailors in the Tunisian Sahel: A Cross-Sectional

Dhouibi J<sup>1</sup>, Barkallah F<sup>2</sup>, Loubiri I<sup>1</sup>, Moncer R<sup>1</sup>, Jemni S<sup>1</sup>

1. Physical Medicine and Rehabilitation department at Sahloul University Hospital of Sousse, Tunisia
2. Department of Occupational Medicine, Farhat Hached University Hospital, Sousse,

**Introduction:** Work-related musculoskeletal disorders (WMSDs) represent a major global health challenge, affecting workers across diverse settings and contributing significantly to disability, reduced productivity, and socioeconomic burden.

**Methods:** A cross-sectional study was conducted between July and December 2023 in the Tunisian Sahel, in collaboration with the Departments of Occupational Medicine (Farhat Hached Hospital) and Physical Medicine and Rehabilitation (Sahloul Hospital). The validated Arabic version of the Musculoskeletal Health Questionnaire (MSK-HQ) was used to assess health-related quality of life, and the Arabic version of the Standardized Nordic Questionnaire was used to identify musculoskeletal disorders. Linear regression was performed to examine associations between MSK-HQ scores and potential risk factors.

**Results:** A total of 130 tailors were included. Regression analysis showed a significant association between musculoskeletal symptoms and reduced MSK-HQ scores ( $p < 0.05$ ). A higher number of affected joints over the past 12 months and the past week was strongly associated with poorer musculoskeletal health. The presence of medical history also correlated with lower MSK-HQ scores, indicating greater vulnerability among these workers.

**Conclusion:** WMSDs among tailors in the Tunisian Sahel reflect a broader global occupational health concern, particularly in resource-limited settings. Identifying risk factors and their impact on quality of life highlights the need for targeted preventive strategies, ergonomic interventions, and strengthened collaboration between occupational health services and rehabilitation specialists. Improving training, workplace assessment, and early management can contribute to better worker health and align with global efforts to promote safer and healthier work.

### Abstract 289: Wounds that echo: the socio-structural determinants of community violence in post-apartheid south africa in the wake of covid-19

Taliep N<sup>1,2</sup>, Dr Ghouwa I<sup>1,2</sup>

1. Institute for Social and Health Sciences (ISHS), University of South Africa (UNISA);
2. Violence, Injury and Social Asymmetries Research Unit (VISARU), South African Medical Research Council (SAMRC), UNISA

The COVID-19 pandemic and its associated public health measures significantly altered the social, economic, and psychological landscape of communities worldwide. In South Africa, the post-COVID-19 period has been marked by a notable surge in violence, with elevated homicide rates and intensified interpersonal and community violence. Drawing on Galtung's structural violence framework, this qualitative study interrogates the multifaceted nature of community violence during and after the COVID-19 pandemic, examining how the pandemic and concomitant public health measures exacerbated and reshaped patterns of harm. Utilising data from in-depth interviews and focus group discussions, this study critically examines the lived experiences of residents in two high-risk South African communities, unpacking the interplay between structural inequities, social disintegration, and evolving forms of violence. The findings highlight how pandemic-era stressors compounded pre-existing vulnerabilities, exacerbating tensions within households, communities, and public spaces. The study findings advocate for interventions that not only address immediate catalysts of violence but also the deeper historical and structural determinants of violence in the post-pandemic era, while ensuring preparedness for effective violence prevention during future pandemics.

### Abstract 290: Young Age as a Predictive factor of Adhesive Small Bowel Obstruction after Pediatric Appendectomy for Complicated Appendicitis

Tounsi MK<sup>1,2</sup>, Zouari M<sup>1,2</sup>, Jarbou O<sup>1,2</sup>, Belhajmansour M<sup>1,2</sup>, Ben Dhaou M<sup>1,2</sup>, Mhiri R<sup>1,2</sup>

1. Faculty of Medicine of Sfax, University of Sfax, Sfax, Tunisia;
2. Department of pediatric surgery, Hedi Chaker University Hospital, Sfax, Tunisia

**Introduction:** Adhesive small bowel obstruction (ASBO) is a serious postoperative complication following appendectomy for complicated appendicitis (CA) in children. This study investigated the correlation between age and the risk of ASBO after pediatric appendectomy for CA.

**Methods:** Children under 14 years who underwent appendectomy for CA between January 2013 and December 2024 at the Department of Pediatric Surgery, Hedi Chaker University Hospital, Sfax, Tunisia, were included. Complicated appendicitis was defined as perforated or gangrenous appendix, intra-abdominal abscess, or diffuse peritonitis. Logistic regression analysis was applied to identify independent predictors of ASBO.

**Results:** A total of 549 patients were analyzed, with a median age of 9 years (range 1-14) and a male-to-female ratio of 1.7:1. Postoperative complications occurred in 122 children (22.2%), including surgical site infections ( $n=64$ , 11.7%), intra-abdominal abscesses ( $n=29$ , 5.3%), wound dehiscence ( $n=14$ , 2.6%), and ASBO ( $n=29$ , 5.3%). Among ASBO cases, 14 required surgical adhesiolysis. Patients who developed ASBO were significantly younger (median age 5 vs. 9 years,  $p<0.001$ ). Children under 5 years accounted for 48.3% (14/29) of ASBO cases, compared with 13.5% (70/520) in the non-ASBO group ( $p<0.001$ ). On multivariate analysis, age  $<5$  years independently predicted ASBO (OR 2.83; 95% CI: 1.14-7.03;  $p=0.025$ ).

**Conclusion:** Age under 5 years is significantly correlated with an increased risk of ASBO after appendectomy for CA in children. This finding highlights the importance of closer follow-up and preventive measures in younger children.

### Abstract C-1 : The Trauma of Immobility: Mental Health and the Schengenization of Mobility in Tunisia

Garnaoui W

Higher Institute of Health Sciences and Techniques of Sousse

In the contemporary regime of global mobility, considerable attention has been paid to the psychological consequences of migration and exile. However, the effects of forced immobility on mental health remain largely understudied. This reflection is situated within the broader framework of what can be described as the "Schengenization" of mobility, that is, a global system of border governance which, since the creation of the 1995 Schengen Area, selectively regulates the circulation of populations. In this context, forced immobility produces what may be described as a "trauma of immobility", a form of psychological suffering linked to the impossibility of moving despite a strong aspiration to mobility. This trauma is not limited to an individual experience; it permeates different aspects of social life and today affects large segments of Tunisian society, particularly younger generations for whom international mobility has become a central horizon of professional and existential projection. The analysis also examines the psychology of the constrained subject, that is, the ways in which the inability to move can produce feelings of impasse, frustration, and suspended futures, affecting the individual's capacity to project themselves into the future and to construct a life trajectory. In this sense, the trauma of immobility emerges as a growing dimension of contemporary psychosocial suffering and invites public health research to integrate the effects of mobility regimes and border policies into the analysis of the social determinants of mental health.

### Abstract C-2 : Migration and health

Belgacem S

Independent public health expert and civil society leader

Migration of Tunisian health professionals: Determinants, impacts and mitigation measures Since its independence Tunisia has invested in human resource development in various fields including health. Training schools for nursing and allied health personnel were decentralised in all governorates and six medical, dentistry and pharmacy schools were established in the coastal area of the country. Such policy allowed the country to have one of the highest densities of health workforce among countries of similar level of income in the WHO region and of good quality. The geostrategic situation of the country and its proximity to Europe and middle eastern countries, the accumulated experience of health and medical tourism, the deteriorating of working conditions in public health facilities and low remuneration of staff, facilitate the migration of qualified health professionals although the phenomenon is not new. The recent Covid 19 pandemic has revealed worrying signs of systemic impact of the accentuated migration particularly since 2011. Most of Tunisian ICU specialists were working in French hospitals during the pandemic while many patients, particularly in public health facilities, lacked access to appropriate care. Also, almost 90 % of trained family physicians with public sacrifices left the country in view of the high attraction by European countries where elderly population is increasing.

### Abstract C-3 : Strategic Perspectives on Artificial Intelligence, Preparedness, and Response to Bioterrorism in the Middle East and North Africa

Farhat H

Major Incident Preparedness and Resilience and Ambulance Service Group, Hamad Medical Corporation, Doha, Qatar

Bioterrorism represents an escalating security threat in the Middle East and North Africa (MENA) due to geopolitical instability, the potential expansion of extremist groups, and the unique risks posed by mass-gathering events. This session outlines principal biological threat classes and explains their operational attractiveness to terrorists as they can cause mass casualties, induce widespread fear, and rapidly overwhelm health systems with relatively accessible materials and knowledge. Regional risk is amplified by religious mass gatherings and cross-border mobility, creating high-density transmission potential and substantial operational complexity for healthcare responders. The session then discusses artificial intelligence (AI) as a dual-use capability that can simultaneously strengthen preparedness and inadvertently empower adversaries. On the preparedness side, AI can enhance biosurveillance, early agent classification, decision support, and antidote logistics, with prototype systems demonstrating high accuracy when underpinned by standardised data and rigorous validation. Conversely, the development of advanced models and datasets risks enabling threat actors to gain capabilities, necessitating rigorous governance, ethical oversight, and safeguards to prevent misuse. The session also argues for structured international-regional collaboration that convenes global experts with MENA stakeholders to codesign innovative, context specific preparedness and response strategies. Priorities include national and international collaboration to ensure resilient, effective preparedness and response to these emerging threats. Regional and international expert collaboration is essential to develop innovative preparedness and response strategies that build resilient health security infrastructure against these emerging threats.

### Abstract C-4 : Fruit and Vegetable Consumption among Palestinian Undergraduate Students: An Online Cross-Sectional Study at Birzeit University, West Bank, Israeli Occupied Palestinian Territory

Taweel H, Zeidan W, Giacaman R, Harb J, Ghandour R, Hussein A,

Birzeit University

Rationale Adequate fruit and vegetable (FAV) intake play a significant role in the protection against nutrition-related complications. Ongoing research is highlighting the importance of inadequate consumption of FAV, which can pose a public health challenge. This cross-sectional study addresses the low consumption of FAV, particularly among young women and men, by investigating the dietary habits of undergraduate students attending Birzeit University (BZU) in the West Bank, Israeli occupied Palestinian territories. Although FAV is an essential component of the Eastern Mediterranean Diet, it is generally under-consumed compared to regional recommendations. In the Israeli Occupied Palestinian Territory, the majority of adults have been reported to consume inadequate amounts of FAV. This was also observed among university students, with only a minority meeting FAV daily intake recommendation. Especially because a limited number of local studies address

the dietary patterns of university students, we carried out this study to address this gap by focusing on FAV consumption and the factors that drive their consumption among university students in the Israeli Occupied Palestinian Territory. The first part of the questionnaire covered key components required for analysis, including socioeconomic and demographic status, dietary habits, food consumption patterns, and availability and affordability of FAV on campus. In the second part of the questionnaire food consumption was assessed using a semi-quantitative food frequency questionnaire. The Online Survey was placed on the University's online platform, Ritaj, between August 18 and October 21, 2020. A total of 1137 undergraduate students filled the online questionnaire.

#### **Abstract C-5 : Now more than ever, Public Health Matters!**

Hammami M

County of Santa Barbara Health Department

During the past 150 years, two factors have shaped the modern public health system: first, the growth of scientific knowledge about sources and means of controlling disease; second, the growth of public acceptance of disease control as both a possibility and a public responsibility. The link between science, the development of interventions, and organization of public authorities to employ interventions increased public understanding of and social commitment to enhancing health. The growth of a public system for protecting health depended both on scientific discovery and social action. The aftermath of the COVID-19 pandemic emphasized the critical need to strengthen health systems, increase public financing, and foster effective international collaboration. It did as well expose the susceptibility of public health to become politicized. The US public health system has faced many challenges in the past, including workforce shortages, insufficient and fragmented funding, a lack of effective data infrastructure and coordination, deep-seated health inequities exacerbated by social determinants of health, the erosion of public trust and authority, and the complex issues of climate change, infectious diseases, and medical misinformation. These issues are now being compounded by guidelines and legislations based on politics rather than science. This session will explore the impact of the recent changes to the public health system in the United States and its implications globally.

#### **Abstract C-6 : African Regional Biorisk Management Trainers' Networks**

Leesman J

Sandia National Laboratories

Biorisk management is critical for safeguarding laboratory staff, the community and the environment. Relationship building and best practices are vital when creating long lasting professional networks around the world. For the last 7 years, on behalf of the Defense Threat Reduction Agency/Biological Threat Reduction Program, my team and I at Sandia National Laboratories have built 11 networks of biorisk management trainers in North, West, Central, East and Southern Africa. What started as a project to develop two cohorts of biorisk management trainers in North Africa has grown to include almost 200 trainers from priority human and animal health priority laboratories in all regions of Africa. These network trainers work in public, private, university and governmental laboratories with diverse backgrounds in biorisk managements--some of our trainers come with little

knowledge in biorisk management and others come from countries where it is more developed. This presentation will highlight and celebrate the accomplishments and show the importance of biorisk management and impact of relationship building while creating these networks of biorisk management trainers across all regions of Africa. All participants complete a series of four structured trainings, regardless of background. These training not only provide a thorough foundation of biorisk management strategies and adult friendly techniques for designing and conducting independent trainings, but also support the creation of long-lasting relationships throughout the series. Trainers are given access to the Sandia Global Biorisk Management Curriculum (GBRMC), which houses over 40 courses ranging from the basic track to laboratory-level track to management and leadership.

#### **Abstract C-7 : Is Migration a Real Challenge for Health Systems?**

Leao T

Institute of Public Health of the University of Porto -Portugal

Economic, climate, and conflict-driven displacement continue to strain health systems globally. This session proposes reframing traditional perceptions of migration as an external shock to be mitigated, arguing instead that systemic pressure is often a consequence of underinvestment in integrated care structures. By examining migration through the lens of public health and universal health coverage, this presentation offers a critical re-evaluation of resilience and sustainability, advocating for a transition from reactive crisis management toward proactive, inclusive, and coordinated care. The discussion is grounded in three contemporary case studies that illustrate the complexities of the global health landscape. First, it examines the shifting dynamics of the Eastern Mediterranean route, which have been testing the capacity of underserved and remote health infrastructures. Second, it addresses challenges in regions facing 'dual pressure': managing the health needs of migrant influxes while simultaneously navigating a significant outflux of the local health workforce. Finally, it explores the climate-migration-health nexus, demonstrating how environmental disasters exacerbate the vulnerability of mobile and deprived groups and pose public health risks that transcend national borders. To address these challenges, the session proposes a strategic framework for health system strengthening. It emphasizes the epidemiological necessity of safeguarding health services as protected spaces, independent of immigration enforcement, to ensure effective disease surveillance and maintain public trust.

#### **Abstract C-8 : Strengthening Mental Health Surveillance and Data Collection Systems in Africa: A Youth-Centric Approach**

Naeem D

Zambia National Public Health Institute (ZNPHI)

Mental health disorders among adolescents represent an escalating public health crisis in sub-Saharan Africa (SSA). Current literature estimates that approximately 14.3% of adolescents in SSA experience mental health conditions, with nearly 37 million adolescents affected across the continent. Recent meta-analytic data reveals alarming pooled prevalence rates among SSA youth, including 15.27% for depression, 12.53% for post-traumatic stress disorder (PTSD), and 11.78% for anxiety. Despite this substantial burden, the systematic

collection of epidemiological data remains highly fragmented, a challenge compounded by a severe psychiatric workforce shortage where the ratio of child psychiatrists is estimated at less than 1 per 4,000,000 people. This presentation explores the critical need for robust, standardized mental health surveillance frameworks tailored to the unique socio-cultural and economic realities of African youth. A vital component of this strategy is the integration of mental health into the Field Epidemiology Training Program (FETP). By training frontline health workers in applied mental health surveillance, we can institutionalize data collection at the community level, effectively bridging the gap between clinical psychiatry and public health monitoring. Drawing on recent qualitative research, this session highlights how structural determinants such as poverty, violence, and disease-related stigma (e.g., HIV) hinder both the tracking of mental health trends and the accessibility of care. We examine the implementation of decentralized data collection models and discuss how integrating youth-centered, confidential, and affordable mHealth (digital) tools can vastly improve both surveillance accuracy and care access.

#### **Abstract C-9 : Research Activities of LR21ES03 on Oncogenesis and Tumor Progression: Advancing Precision Oncology**

Missaoui N

Faculty of Medicine of Sousse

The research laboratory LR21ES03 "Oncogenesis and Tumor Progression", accredited in 2021 at the Faculty of Medicine of Sousse, conducts translational research focused on understanding the molecular mechanisms of tumorigenesis and improving personalized cancer care. The laboratory follows a multidisciplinary approach integrating histopathology, molecular pathology, immuno-oncology, and precision medicine, supported by an active network of national and international collaborations. The laboratory benefits from substantial human resources, including 32 faculty members, and supervises 10 PhD candidates and 7 Master's students. Its scientific activities are structured around five strategic research axes. Axis I focuses on biomarkers and the tumor microenvironment in colorectal cancers. It aims to identify predictive and prognostic molecular signatures for personalized medicine. Axis II is dedicated to precision medicine in neuro-oncology, particularly the identification of biomarkers, molecular reclassification, and the study of therapeutic resistance mechanisms. Axis III targets the molecular and genomic characterization of sarcomas to develop novel diagnostic and therapeutic strategies. Axis IV investigates immune checkpoints and microRNAs as prognostic biomarkers and potential therapeutic targets. Axis V integrates artificial intelligence within the framework of the Tunisian Consortium for AI for Advanced Medicine, promoting advanced analytics and supporting the development of intelligent, personalized medicine. The laboratory maintains strong clinical and scientific collaborations with university hospitals, including Sahloul University Hospital, Farhet Hached University Hospital in Sousse, and Fattouma Bourguiba University Hospital in Monastir, as well as with research laboratories such as the Human Genome and Multifactorial Diseases Laboratory and the Nutrition, Functional Foods and Health Laboratory at Monastir.

#### **Abstract C-010 : RIP140-Mediated Immunomodulation of the Tumor Microenvironment in Gastrointestinal Cancers: Toward a Novel Therapeutic Target and Prognostic Biomarker**

Hasni R

Faculty of Medicine of Sousse

Deciphering the mechanisms that regulate the remodeling of the tumor immune microenvironment (TIME) in gastrointestinal cancers (GICs) is essential for improving our understanding of tumor development and therapeutic responses. Recent studies, together with strong unpublished observations from Dr. Cavallès's team, highlight the critical role of the transcriptional coregulator RIP140 (Receptor Interacting Protein of 140 kDa) in regulating TIME, a key compartment involved in oncogenesis and treatment outcomes. In particular, alterations in the subcellular localization of regulatory proteins may significantly influence transcriptional programs controlling tumor-immune interactions. The main objective of this project is to determine whether the subcellular localization of RIP140 influences the regulation and remodeling of the TIME, particularly the nature and spatial distribution of immune cell subpopulations infiltrating gastrointestinal tumors. To address this question, several complementary approaches will be implemented. First, we will analyze RIP140 expression in human GIC samples by immunohistochemistry to identify the cellular compartments and specific cell populations that exhibit differential RIP140 expression in tumor tissues compared with normal gastrointestinal mucosa. Second, we will evaluate the relationship between RIP140 expression and the spatial organization of immune infiltrates within the tumor microenvironment. In particular, we will investigate the correlation between RIP140 expression and tumor-infiltrating lymphocytes, macrophage polarization, and the development of tertiary lymphoid structures (TLS), which are increasingly recognized as important determinants of antitumor immunity. Third, in vitro studies will be conducted to investigate the mechanisms regulating the cytoplasmic export of RIP140.

#### **Abstract C-011 : Ethical Responsibility in Biomedical Research**

Ahmad I

University of Nebraska Medical center

Ethical Responsibility in Biomedical Research "The responsible conduct of research (RCR) is essential to good science. RCR promotes the aims of scientific inquiry, fosters a research environment that enables scientists to work together toward common goals, and promotes public confidence in scientific knowledge and progress for the public good. However, there are several serious detrimental effects of research not conducted ethically and responsibly. These include, for example, data fabrication and falsification of **Results** which undermine the pursuit of valid knowledge by misleading scientists to accept and further study false hypotheses or unreliable data. Likewise, plagiarism and harassment negatively impact the research environment by harming respect and trust among scientists. Fraudulent or socially irresponsible research undercuts the public's trust of and support for science."- National Institute of Health (NIH).<sup>1</sup> The workshop is designed for graduate students, postdocs and mentors where we will discuss through case studies how to interpret situations, decide and apply ethical rules that lead to reliable and reproducible research

in basic, clinical, translational research. 1. <https://oir.nih.gov/sourcebook/ethical-conduct/responsible-conduct-research-training>

### **Abstract C-012 : TAIXOR as an Artificial Intelligence-Driven Platform for Operating Room : Workflow Optimization and Postoperative Complications Prediction in the Arab World**

Romdhani A

Faculty of medicine of Sousse

Operating rooms (ORs) represent one of the most resource-intensive components of hospital systems. Inefficient workflow management and delayed recognition of postoperative complications contribute to increased costs, surgical delays, and suboptimal patient outcomes. While artificial intelligence (AI) is increasingly applied in perioperative care globally, implementation in many countries of the Arab world remains limited. This presentation introduces TAIXOR, an AI-driven digital health platform designed to improve OR workflow management and support early prediction of postoperative complications in resource-constrained healthcare settings. TAIXOR integrates perioperative clinical and operational data into a unified digital platform to enhance surgical coordination and decision-making. The system combines workflow management tools with machine learning-based predictive models that analyze variables related to surgical procedures, patient characteristics, and intraoperative indicators. The objective is twofold: Optimize operating room scheduling and resource utilization through real-time workflow monitoring, and identify patients at increased risk of postoperative complications to support earlier clinical intervention. A functional prototype of TAIXOR has been developed to demonstrate the platform's architecture and workflow integration. The prototype includes modules for surgical scheduling visualization, operational workflow tracking, and a predictive analytics component designed to estimate postoperative complication risk. Preliminary simulations using structured perioperative datasets demonstrate the feasibility of integrating clinical and operational data streams within a single decision-support interface. The expected impact of this approach includes improved OR utilization, reduced surgical delays and cancellations, and enhanced postoperative monitoring through data-informed risk stratification.

### **Abstract C-013 : Migration and Health: Building research capacity in the Arab region**

Nuwayhid I, Habib R

Faculty of Health Sciences, American University of Beirut, Beirut-Lebanon

At the end of 2024, the UNHCR estimated 123.2 million people to be forcibly displaced worldwide "due to persecution, conflict, violence, human rights violations and events seriously disturbing the public order." This estimate includes 42.7 million refugees, of which 73% are hosted in low- and middle-income countries. The Arab/Eastern Mediterranean region carries the highest burden of the forcibly displaced people. Refugees tend to live and work in precarious conditions. Although research on these vulnerable populations is on the rise, it is still limited and researchers interested in the living and working conditions of migrants are scarce, especially in our region. The Global Environmental and Occupational Health Research Training Hub for the MENA Region (GEOHealth-MENA) is a research-

training program housed at the American University of Beirut, in collaboration with Yale University and a number of other US universities, including University of Iowa, University of Washington, and University at Buffalo. It was launched in 2022 with support from the US National Institutes of Health (NIH). One of the aims of this hub is to build regional capacity in environmental and occupational epidemiology, with a focus on the agricultural sector and vulnerable migrant working populations including refugees. Three health professionals (two from Lebanon and one from Sudan) were recruited into the PhD program in Epidemiology at the Faculty of Health Sciences (FHS) at AUB and their dissertation work is integrated within the research project on Syrian refugee agricultural workers led by the AUB investigators.

### **Abstract C-014: Institutional Profile: Laboratory of Applied Metabolic Biophysics and Pharmacology (LR12ES02)**

Ben Fredj M

Faculty of medicine ou Sousse- University of Sousse

Established in 2012, the Biophysics Metabolic, and Applied Professional and Environmental Toxicology Laboratory (LR12ES02) is a multidisciplinary research structure affiliated with the Faculty of Medicine of Sousse and the University of Sousse. In 2017, its denomination was updated to Applied Metabolic Biophysics and Pharmacology to better reflect its evolving research priorities. Research Fields and Expertise The laboratory operates at the intersection of medical and biological sciences, focusing on three primary axes: Biophysics and Natural Substances: Characterization of medicinal plant extracts and the study of their metabolic and pharmacokinetic properties to identify new bioactive substances. Clinical Pharmacology: Investigation of drug pharmacovigilance, pharmacogenetics, and therapeutic optimization, particularly regarding drug-induced toxicities and metabolic pathways. Microbiology and Microbiota: Analysis of the human gut microbiota and its relationship with metabolic (obesity), inflammatory, and neuropsychiatric (depression) pathologies, as well as the study of antimicrobial resistance. To support these objectives, the lab is equipped with advanced analytical tools, including LCMS, HPLC, and real-time PCR systems. Research Team The laboratory hosts a diverse team of dedicated researchers and students. As of 2025, the human resources include: 29 Senior Researchers: Comprising 18 Professors and Associate Professors and 11 Assistant Professors. Junior Researchers: 18 doctoral students and 2 master's students. Support Staff: 13 equivalent-grade assistants and 3 specialized technicians. Scientific Output and Impact The laboratory maintains a strong record of scientific production. Its activity report for 2025 highlights: 45 Impacted Publications: Research articles published in JCR-indexed international journals.

### **Abstract C-015 : Migration and Health: The Case of Syrian Refugee Agricultural Workers in Beqaa, Lebanon**

Habib R, Nuwayhid I

Faculty of Health Sciences, American University of Beirut, Beirut-Lebanon

Lebanon hosts 1.0-1.5 million Syrian refugees displaced by 15 years of violent conflict and ongoing political uncertainty in neighboring Syria. More than 35% of these refugees reside in the Beqaa region of Lebanon bordering Syria, with a vast majority working in agriculture. This working population

lives in precarious environmental conditions, suffers from discriminatory and restrictive residential and work regulations, and are exposed to pesticides, heat stress, and other hazards at work. As part of the NIH-funded GEOHealth- MENA program, AUB is leading a research study to measure the exposure of Syrian refugees working in greenhouse farms in the Beqaa region to pesticides, heat stress, and multiple social stressors and to assess the impact of these exposures on the workers' cognitive functions (measured by their performance on neurobehavioral tests). We aim to recruit 150 Syrian agricultural workers (75 male pesticide sprayers and 75 female harvesters), and an equal comparison group of Syrian male and female non-agricultural workers. Field observations, personal monitoring, and urine sampling were adopted to assess exposure to pesticides. Field observations, personal monitoring, and environmental (area) monitoring were adopted to assess exposure to heat stress. Participants were interviewed to assess recent and former exposures to pesticides and heat stress, as well as their exposure to social stressors. Preliminary analysis shows that agricultural workers are exposed to a "cocktail" of pesticides sprayed frequently within greenhouses. Exposure to pesticides is gendered, since men spray and women harvest within 1-3 days of spraying.

#### **Abstract C-016 : Research Laboratory LR12ES03: Quality of Care and Management of Maternal Health Services**

Ghardallou M

Faculty of Medicine of Sousse

Legacy & Evolution Established in 2012 at the Faculty of Medicine of Sousse (University of Sousse, Tunisia), our laboratory has 13 years of expertise in bridging the gap between clinical practice and community health. It was founded as a strategic synergy between the Departments of Community Medicine and Obstetrics & Gynecology to consolidate scientific gains in maternal health. Strategic Research Pillars Our mission is driven by three core axes of intervention: Clinical Optimization: Enhancing healthcare delivery through improved clinical practices and streamlined referral systems between providers and users. Organizational Management: Strengthening health service capacity via staff training, rigorous evaluation systems, and continuous quality supervision. Social Governance: Empowering community participation by involving local stakeholders and citizens in the sustainability of maternal health actions. Human Expertise as Primary Asset Our laboratory operates on a unique model: we do not rely on heavy machinery, but on advanced data analysis and human competence. As of the end of 2025, our multidisciplinary team has grown to include over 60 members, comprising: 25 Senior Faculty Researchers (16 Category A and 9 Category B). 15 PhD Candidates and 10 Research Master's students. Supportive medical staff, including residents and specialized clinicians. Scientific Impact & Global Networking We maintain a high level of academic productivity and international visibility: 2025 Milestones: 30 impactful publications (JCR/Scopus) , 8 medical theses, and 48 Master's degrees successfully defended. Cumulative Reach: To date, we have produced over 217 articles and mentored nearly 400 graduates.

#### **Abstract C-017 : Empowering data-focused research: the Ensembl platform and training programme for capacity building**

Batista da Rocha J

European Bioinformatics InstituteTeam at EMBL EBI in Cambridge, UK

The Ensembl Genome Browser has been an indispensable tool in the field of genomics, aiding researchers around the world in their research for over 25 years. The Ensembl database provides visualisation and comprehensive analyses of integrated genomic data, including genes, variants, comparative genomics and gene regulation, for over 5,000 eukaryotic and over 30,000 prokaryotic genomes. The Ensembl resource is open and freely accessible to allow researchers, educators, and students worldwide to explore and build upon genomic information without barriers. To meet the growing demands of the data-driven life sciences and health research communities, the new Ensembl data platform (<https://beta.ensembl.org/>) has been developed to deliver enhanced features, improved data visualisation, and a more intuitive user experience. The new Ensembl hosts new human genomes, including the most complete human genome - the T2T- CHM13 telomere-to-telomere assembly. The Ensembl Outreach Team delivers free training globally to show researchers and clinicians how to access and explore genomic data. This team has developed and run a "Train the Trainer" workshop to empower educators to teach data-focused subjects within their own communities. This talk will provide an overview of Ensembl's open data platform, and highlight how the Outreach Team supports health and life science education by helping participants build practical skills in genomics and using bioinformatics data.

#### **Abstract C-018 : Bridging the Data Gap in Global and Occupational Health: The Role of Synthetic Data Generation and Machine Learning**

Maoua M

Faculty of Medicine Of Sousse

A critical bottleneck in deploying robust Artificial Intelligence across global healthcare systems is the scarcity of structured, interoperable, and privacy-compliant clinical data. This challenge is particularly pronounced in specialized domains such as occupational medicine and environmental health, where long-term exposure data and complex health trajectories are fragmented or difficult to aggregate. This presentation explores the transformative potential of synthetic data generation and advanced machine learning algorithms to overcome these regional and global data deficits. By utilizing generative models to synthesize high-fidelity datasets that mirror the statistical properties of real-world patient and worker populations, researchers can safely train sophisticated predictive models. These models are crucial for occupational risk assessment, chronic disease management, and tailoring precise care pathways without compromising patient confidentiality. We will discuss how integrating synthetic data methodologies not only circumvents privacy barriers and ethical constraints but also democratizes access to robust analytical tools. Ultimately, this approach builds essential bridges between isolated data silos and clinical application, fostering continuous discovery and more equitable health interventions in the MENA region and beyond.

#### **Abstract C-019 : Artificial Intelligence in Healthcare: Capacity Building in Health Research**

Hammad A

Global Health Research and Solutions

As Artificial Intelligence (AI) increasingly shapes healthcare decision-making and the future of health research, population-representative data is essential to achieving equitable health outcomes. Historically, marginalized communities—including Arab, Middle Eastern, and North African (Arab/MENA) populations—have been underrepresented in public health databases and biomedical research. This lack of representation raises concerns about bias in AI-driven health technologies that rely on large datasets for training and predictive modeling. When communities are absent or misclassified, AI systems risk reinforcing existing health disparities rather than reducing them. Meaningful representation of Arab/MENA American populations in health data is critical for culturally competent and equitable AI applications. The recent recognition of the Middle Eastern and North African (MENA) category in the United States Census represents an important milestone and offers an opportunity to better identify and address health disparities that were previously masked under the broader “White” racial classification. This change supports more inclusive health research, improves transparency and trust between communities and healthcare institutions, and strengthens efforts to advance health equity as AI becomes integrated into clinical practice and public health systems. This presentation highlights a collaborative initiative conducted with the community-based organization Arab Community Center for Economic and Social Services (ACCESS). The project engaged Arab/MENA American community members to explore their perspectives, expectations, and concerns regarding the use of AI in healthcare. Through community dialogue and engagement, the project aimed to identify barriers to participation in health research and promote inclusive approaches that ensure community voices inform the development of AI-enabled healthcare tools.

#### **Abstract C-020 : Sovereign Health AI: Decoupling from Global Consumption to Lead the MENA Intelligent Frontier**

Shara N

MedStar Health- Georgetown University

As the global landscape shifts toward localized, high-performance computing and data sovereignty, the MENA region is no longer just a consumer of technology it is becoming its architect. This session translates a decade of frontline AI implementation within U.S. healthcare systems into a strategic blueprint for the Arab World's intelligent health future. By analyzing proven use cases from agentic clinical bots and ambient documentation to predictive diagnostics we move beyond theory into the “how-to” of scalable impact. We will dissect the non-negotiables of the current era: robust data governance, independent computing infrastructure, and the ethical oversight required to build systems that are not just imported, but locally owned. At this pivotal inflection point, this talk empowers MENA researchers and policymakers to bridge the gap between early-stage innovation and a self-determined, AI-driven healthcare economy.

#### **Abstract C-021 : RIP140 and Immunomodulation of the Tumor Microenvironment in Gastrointestinal Cancers: Towards a Novel Therapeutic Target**

Hasni R

Faculty of Medicine of Sousse

Deciphering the mechanisms regulating the remodeling of the

tumor immune microenvironment (TIME) in gastrointestinal cancers (GICs) is essential for improving our understanding of tumor development and therapeutic response. Recent studies, together with strong unpublished observations from the team of Dr. Cavallès, highlight the critical role of the transcriptional coregulator RIP140 (Receptor Interacting Protein of 140 kDa) in the regulation of the TIME, a key compartment involved in oncogenesis and treatment outcomes. In particular, alterations in the subcellular localization of regulatory proteins may significantly influence transcriptional programs controlling tumor–immune interactions. The main objective of this project is to determine whether the subcellular localization of RIP140 influences the regulation and remodeling of the TIME, particularly the nature and spatial distribution of immune cell subpopulations infiltrating gastrointestinal tumors. To address this question, several complementary approaches will be implemented. First, we will analyze RIP140 expression in human GIC samples using immunohistochemistry in order to identify the cellular compartments and specific cell populations displaying differential RIP140 expression in tumor tissues compared with normal gastrointestinal mucosa. Second, we will evaluate the relationship between RIP140 expression and the spatial organization of immune infiltrates within the tumor microenvironment. In particular, we will investigate the correlation between RIP140 expression and tumor-infiltrating lymphocytes, macrophage polarization, and the development of tertiary lymphoid structures (TLS), which are increasingly recognized as important determinants of antitumor immunity. Third, in vitro studies will be conducted to investigate the mechanisms regulating the cytoplasmic export of RIP140.

#### **Abstract C-022 : Towards Responsible AI in Humanitarian Settings: Ethics, Governance, Implementation and the Role of Government and Policies in Integrating AI into Healthcare Systems**

Maddah D

Qatar University

Artificial intelligence (AI) is increasingly positioned as a transformative tool for humanitarian action across sectors including health, protection, shelter, food security, WASH, education, and disaster risk reduction. AI applications can enhance early warning, needs assessment, targeting, resource allocation, and accountability to affected populations across the humanitarian response cycle. However, in fragile and crisis-affected contexts, AI adoption remains constrained by ethical risks, weak governance structures, regulatory gaps, and concerns related to equity, trust, and feasibility. This project adopts a participatory, mixed-Methods, and co-design approach to advance responsible AI integration across humanitarian systems. It examines the perceptions, readiness, and concerns of humanitarian actors, government institutions, and policymakers regarding AI, with a focus on ethics, data protection, transparency, accountability, and alignment with humanitarian principles. Grounded in these findings, the project develops the first national ethical framework for AI use in humanitarian settings in the MENA region, providing context-specific guidance to ensure responsible, inclusive, and rights-based adoption across sectors. In parallel, the project produces a practical implementation roadmap that identifies priority, feasible AI use cases designed to address real operational and developmental challenges in humanitarian contexts. The roadmap outlines solution-oriented use cases, implementation phases, stakeholder roles, enabling policy conditions, and monitoring and evaluation indicators to support

piloting and scale-up. By emphasizing the role of governments in stewardship, regulation, and coordination, this work bridges the gap between ethical commitments and operational practice. The project offers an actionable, policy- aligned foundation for leveraging AI to strengthen effectiveness, equity, and trust across humanitarian systems.

### **Abstract C-023 : Landscape of mental health and suicide in africa: the need for member states to prioritize access to mental health and suicide intervention services**

Lateef Sheikh T

Department of Psychiatry, Ahmadu Bello University Zaria

Mental health and many common mental disorders are shaped to a great extent by the social, economic, and physical environments in which people live. Social inequalities are associated with increased risk of many common mental disorders, while most of the social determinants of mental health and suicide are outside the fringes of health administration. Mental health is one of the most neglected areas of health in the world and even worse in Africa. Despite the impact of mental health conditions on individuals, families and society, and the high levels of mental health disabilities, more than 85% of people with severe mental illness in low-and-middle income countries do not receive the care they require. This gap could be as high as 95% in some African countries. There is less than 1 mental health professional for every 100,000 people (average 1:1000,000 in Sub-Sahara Africa) and human rights violations against people with severe mental health conditions are widespread. Investment in mental health, particularly in community-based services is poor, public expenditure on mental health are very meager. African countries spend 1%-2% of their health budgets on mental health; and more than 80% of these funds go to standalone psychiatric hospitals. International development assistance for mental health is estimated to be less than 1% of all development assistance for health. The relation between mental health and suicide is glaring, and the burden of suicide especially among youth (15-29years old) has attained a crisis point in Africa. Suicide is a compulsive desire for self-inflicted death.

### **Abstract C-024 : Social and Cultural Determinants of Mental Health in Africa: Where Do We Stand in 2026**

Seedat S

Department of Psychiatry, Faculty of Medicine and Health Sciences, Tygerberg Campus, Stellenbosch University, Cape Town, South Africa

Social and cultural determinants are central to understanding the distribution, expression, and treatment of mental disorders across Africa. Structural drivers, such as poverty, unemployment, food insecurity, unequal access to education and health services, and conflict-related displacement, create population- level risk gradients for common mental disorders, and for serious mental illness. Social disadvantage operates both directly (psychosocial stress, trauma, social exclusion) and indirectly (reduced access to care and cumulative biological wear), producing elevated prevalence rates and poorer outcomes in many African settings. Cultural systems shape explanatory models, help-seeking pathways, and stigma. Across diverse African communities, traditional beliefs about spiritual, relational, or moral causes of distress coexist with biomedical models; these plural explanatory frameworks determine whether people consult family, faith or traditional healers, or

formal mental health services — with important consequences for the timeliness and type of care received. Additionally, stigma and low mental-health literacy further moderate treatment uptake and recovery trajectories. Emerging evidence highlights critical life-course windows (perinatal period, adolescence, and post-conflict resettlement) during which social exposures disproportionately shape mental health. The adolescent mental-health burden in Africa is substantial, with pooled estimates indicating high prevalence of depression and anxiety linked to bullying, hunger, and schooling disruption — underscoring the need for upstream social interventions. Integrating social determinants with biological mechanisms through exposome and systems approaches is key to understanding pathogenesis and outcome.

### **Abstract C-025 : Strengthening Mental Health Capacity in Africa: A Two-Year Review of the Africa CDC Mental Health Leadership Program**

Sesay U, Njobo Mamba D, Ingabire Kabarega B, Dybdahl R, Kakunze A, Abdulaziz, Umaru Sesay M

Africa Centers for Disease Prevention and Control, Addis Ababa, Ethiopia

Mental health conditions represent a major public health challenge in Africa, exacerbated by inadequate workforce. In 2023, the Africa Centres for Disease Control and Prevention launched the Mental Health Leadership Programme (MHLP) to enhance the capacity of frontline workers in addressing mental health challenges: policies, financing, and healthcare infrastructure. We aim to share the successes and challenges during the first two years of implementation and proffer recommendations to improve mental health ecosystems in Africa. The MHLP constitute four pillars: Kofi Anan, Mental Health Field Epidemiology Training Program (FETP), mental health short course, and civil society organization (CSO) engagement and networking. The mental health Kofi Anan program is a two-year program targeting leaders and advocates while the mental health short course is a two-week program targeting mental health advocates. The mental health FETP track is embedded in the intermediate and advance course of existing FETP programs. The CSO engagement and networking trained CSOs and organization of people with disabilities. Successes and challenges of MHLP Implementation A total of 301 mental health advocates and leaders were enrolled, with five from Kofi Anan, ten mental health intermediate FETP, and 255 from mental health short course successfully graduated across more than 30 Africa countries. Fifty CSOs and organization of persons with disabilities were trained. However, limited post-training funding support for supervision and mentoring, absence of a thorough mental health needs assessment, and the lack of a comprehensive framework for evaluating program effectiveness remains major challenges.

### **Abstract C-026 : Approaches to Mental Health Surveillance and Data Collection in Africa**

Dalal N

Zambia National Public Health Institute, Zambia

Remains underdeveloped despite the continent's disproportionate burden of mental disorders and rising non-communicable diseases (Africa CDC, 2024; WHO, 2025). Over one billion people globally live with mental health conditions, yet disparities in care, data systems, and workforce capacity hinder effective response in low-resource settings (World Health

Organization, 2025). This presentation examines evidence-based approaches to strengthen mental health surveillance and data collection across Africa, leveraging regional strategies, longitudinal studies, and country-level innovations. Robust mental health surveillance requires integration into national health information systems (Africa CDC, 2024). Embedding key indicators for depression, anxiety, psychosis, and substance use within existing platforms enables holistic monitoring of disease burden and service utilization. However, challenges such as fragmented reporting, pervasive stigma, lack of workforce, and limited data governance persist. Notably, only 17% of African mental health datasets meet FAIR principles, underscoring the critical need for improved data quality, interoperability, and sharing (Mugotitsa et al., 2024). Zambia's National Public Health Institute (ZNPHI) exemplifies practical, scalable progress. Through community-based surveillance, use of mobile technology, and district-level reporting, Zambia has piloted mental health indicators aligned with WHO's guidance on integrating mental health into primary care and community health worker training (WHO, 2021). Participatory approaches engaging youth, caregivers, and traditional leaders have reduced stigma and enhanced data accuracy, demonstrating the power of culturally grounded methodologies to improve reporting and service delivery.

#### **Abstract C-027 : Integrating Mental Health into Primary Health Care Systems in Africa**

Wakil A

MBBS (ABU), FSEAN, FAAN, FRCP (London), FAMedS, FWACP

Mental health is an essential component of overall well-being and a fundamental human right. Yet across Africa, millions remain untreated due to stigma, underinvestment, fragile health systems, and workforce shortages. With fewer than one mental health worker per 100,000 people in many countries, more than 70% of those with mental health conditions receive no care. Integrating mental health into Primary Health Care (PHC) offers a cost-effective and equitable approach to closing this treatment gap. This review synthesizes global and regional frameworks, including WHO's mhGAP, the Inter-Agency Standing Committee (IASC) guidelines, and Africa CDC strategies. It examines contextual challenges, highlights best practices across African countries, and outlines strategic contributions by Africa CDC toward strengthening PHC systems through mental health integration. Integration is hindered by human resource shortages, training gaps, limited medication access, cultural stigma, weak health information systems, and underfunded national policies. Nonetheless, successful models such as Zimbabwe's Friendship Bench, task-shifting in Ethiopia and Uganda, and post-crisis responses in Nigeria, Sierra Leone, and Liberia illustrate scalable and culturally adapted solutions. Africa CDC has contributed through the development of a Continental Mental Health Strategy, MHPSS Minimum Service Package, training in Psychological First Aid, and improvements in surveillance and mental health indicators. Integrating mental health into PHC is critical for achieving Universal Health Coverage and the Sustainable Development Goals in Africa. Priorities include investment in costed policies, workforce and community training, digital innovation, essential medicine access, stigma reduction, and strengthened regional collaboration.

#### **Abstract C-028 : Community-Based Interventions and the Role of NGOs for Mental Health Promotion and Prevention in Africa**

Labor C

Women's Wellness Institute, NPHA

Community-Based Interventions and the Role of NGOs for Mental Health Promotion and Prevention in Africa Dr. Carol Labor Lead, Mental Health Secretariat Chief Mental Health and Wellbeing Officer, NPHA Mental health promotion and prevention have emerged as critical priorities in Africa, where social determinants such as poverty, conflict, gender-based violence, unemployment, and limited access to health systems exacerbate psychological distress and increase vulnerability to mental disorders. Despite the growing recognition of mental health as a public health imperative, systemic barriers—including stigma, under-resourced health infrastructure, and insufficient trained professionals—limit access to formal care. Against this backdrop, community-based interventions and the role of non-governmental organizations (NGOs) are increasingly pivotal in advancing mental health and psychosocial support (MHPSS) across diverse African contexts. Community-based interventions offer culturally responsive, accessible, and sustainable strategies for mental health promotion and prevention. Grounded in local traditions, indigenous healing practices, and social support networks, these interventions strengthen protective factors while addressing risk factors at individual, family, and community levels. Approaches such as peer support groups, women's collectives, school-based psychosocial programs, and community dialogues reduce stigma, foster resilience, and encourage early help-seeking behaviors. By integrating mental health into existing community platforms—including faith-based organizations, maternal health services, and youth empowerment initiatives—interventions achieve broader reach, especially in rural and underserved areas. NGOs play a catalytic role in this ecosystem by bridging gaps between national policy frameworks and grassroots realities. They facilitate capacity building by training community health workers, teachers, and lay counselors to deliver basic psychosocial support and referral pathways.

#### **Abstract C-029 : The Burden of Non-Communicable Diseases (NCDs) in Africa: Current Epidemiological Trends and Regional Differences**

Ghannem H

Faculty of Medicine Ibn Eljazzar, University of Sousse, Tunisia

Non-communicable diseases (NCDs) are increasingly becoming a significant public health challenge in Africa, contributing to a growing burden of morbidity and mortality. Historically, the continent has been predominantly affected by infectious diseases such as HIV/AIDS, malaria, and tuberculosis. However, rapid urbanization, lifestyle changes, and demographic shifts have led to a rise in NCDs, including cardiovascular diseases, diabetes, cancer, and chronic respiratory illnesses. In 2019, NCDs accounted for 37% of deaths in sub-Saharan Africa, a rise from 24% in 2000, with the burden increasing by 67% from 1990 to 2017. Diabetes cases are projected to soar from 19 million in 2019 to 47 million by 2045. This shift, now representing 30% of Disability-Adjusted Life Years (DALYs), underscores a "triple burden" alongside communicable diseases and injuries, straining health systems and costing billions economically,

particularly among lower socio-economic groups. Despite the lack of valid and reliable data in the continent, current epidemiological trends indicate that NCDs are driven by risk factors such as unhealthy diets, physical inactivity, tobacco use, and harmful alcohol consumption. Additionally, limited access to healthcare services, poor health infrastructure, and inadequate public health interventions exacerbate the burden. Regional differences are evident, with Southern and Northern Africa experiencing higher NCD prevalence due to more advanced epidemiological transitions, while Central and West Africa face a dual burden of infectious diseases and emerging NCDs. Small island nations report 50-88% of deaths from NCDs, reflecting a high proportional impact.

### **Abstract C-030 : The Social Determinants of NCDs & Multi sectorial approach in African Contexts**

Claude Mbanya JC

University of Yaoundé I, Yaoundé, Cameroon

Non-communicable diseases (NCDs) in Africa require a multi-sectoral approach to address their complex determinants. Social determinants, such as economic, environmental, and social factors, play a significant role in the rising burden of NCDs in Africa. The key social determinants of NCDs in Africa include: Socioeconomic Status: Influences access to healthcare, healthy food, and lifestyle choices. Education: Impacts health literacy and decision-making. Urbanization: Can lead to changes in diet and physical activity levels. Gender: Women often face limited access to healthcare and higher exposure to NCD risk factors due to gender norms. Access to Healthcare: Availability and quality of healthcare services affect NCD management. There are many challenges to address the NCDs burden in Africa including inadequate awareness, insufficient funding, weak political will and limited resources. Nevertheless, improved health outcomes, economic benefits, reduced healthcare costs and sustainable development could be achieved through a multi-sectoral approach involving collaboration across various sectors of health, agriculture, education, trade and transport. In this presentation, we will demonstrate how the above factors are entwined through the Africa CDC and WHO NCDs strategies in Africa. We will use some country specific successes to illustrate their applicability. Social determinants of NCDs in Africa play a crucial role in shaping health outcomes. These determinants create environments that influence population risk and individual behaviour, leading to reduced inequities, healthier environments, and increased coverage of health interventions.

### **Abstract C-031 : Africa CDC Strategy for NCD & Injury; Prevention and control and Mental health promotion in Africa: Advancing Integration, Evidence, and Action**

Abdulaziz M

NCD, Injuries, and Mental Health Division, Africa Centres for Disease Prevention and Control, Addis Ababa, Ethiopia

Non-communicable diseases (NCDs), injuries, and mental health (NCDIMH) conditions represent a growing health and development challenge in Africa. Recognising this urgency, the Africa Centres for Disease Control and Prevention (Africa CDC) launched its first Strategy on NCDs, Injuries, and Mental Health (2022–2026), validated at a ministerial meeting in 2022, as a continental framework for integrated prevention, control, and health system strengthening. The strategy provides a roadmap

anchored on six strategic objectives, including enhancing Member States' capacity, strengthening multisectoral action, and advancing political advocacy. The strategy was developed through an evidence-based, consultative process involving literature reviews, regional consultations with Member States and stakeholders, and technical input from African experts. Following its launch, Africa CDC operationalised the strategy through programmatic initiatives across surveillance, policy, workforce development, advocacy, and multisectoral coordination, with progress documented in scientific publications, policy briefs, and regional peer review reports. Implementation of the Africa CDC NCDIMH Strategy has advanced both continental capacity and political commitment. Two key governance structures were established: a High-Level Advisory Committee of eminent African experts to guide implementation, and the first-ever AU Multisectoral Taskforce on NCDIMH, which has championed Africa CDC's multisectoral work, including the AU Common Position presented at the 2025 UNGA and development of the continental MECA framework. Together, these bodies have elevated NCDIMH into continental and global agendas. Africa CDC strengthened the capacity of 46 Member States through the continental NCDIMH leads network, a platform for technical exchange and collaboration.

### **Abstract C-032 : Towards Integrated Surveillance for NCDs, Injuries, and Mental Health in Africa: The Africa CDC Experience and Lessons Learned**

Kakunze A, Sesay U, Kabarega B, Khalif A, Njobo Mamba D, Abdulaziz M

NCD, Injuries, and Mental Health Division, Africa Centres for Disease Prevention and Control, Addis Ababa, Ethiopia

Non-communicable diseases, injuries, and mental health (NCDIMH) conditions represent a growing public health and development challenge globally, with Africa bearing a disproportionate and growing burden. Without concerted action, these conditions are projected to become the leading causes of morbidity, disability, and mortality across the continent by 2063. Recognizing the urgent need for robust and harmonized data, the Africa Centres for Disease Control and Prevention (Africa CDC) developed and launched the Guidance for Strengthening NCDIMH Surveillance Systems in Africa in 2023. The guidance provides a comprehensive roadmap for Member States to generate timely, reliable, and comparable data, integrating NCDIMH indicators within existing surveillance and health information systems to inform evidence-based policies and interventions across Africa. We aim to share Africa CDC's approach in strengthening NCDIMH surveillance in Africa. The guidance was developed through a participatory process led by Africa CDC in collaboration with Member States, Regional Coordinating Centres, and technical partners. A mixed-Methods approach was employed comprising evidence review, stakeholder consultations, and validation workshops, to define critical recommendations on continental core indicators, data sources and data types; surveillance system capacity; surveillance integration with existing system; and data use. Since the launch of the Africa CDC's continental surveillance guidance, Africa CDC has implemented critical interventions across African Union Member States, significantly enhancing the capacity of surveillance systems throughout the continent. In early 2025, Africa CDC developed and validated continental core indicators for NCDIMH, aimed at harmonizing data reporting across Africa.

### Abstract C-033 : Integrating NCD Prevention and management into Primary Healthcare Systems

Ramaiya K

Shree Hinu Mandal Hospital Dar es Salaam, Tanzania

Abstract The escalating burden of non-communicable diseases (NCDs) in Africa—particularly cardiovascular diseases, diabetes, cancer, chronic respiratory conditions, mental health, sickle cell disease and road traffic accidents & injuries—poses a formidable challenge to health systems traditionally oriented toward infectious diseases. Integrating NCD prevention and management into primary healthcare (PHC) systems offers a transformative opportunity to address this crisis through equitable, cost-effective, and sustainable means. This integration aligns with the principles of Universal Health Coverage and strengthens health system resilience by embedding NCD services into the first point of contact for most patients. In the Region where majority of the population resides in rural and semi-urban areas, primary health care is their first point of contact with the health system. For policy makers, this approach demands strategic alignment of national health priorities with the epidemiological transition, supported by multisectoral coordination and robust governance frameworks. For funders, it presents a high-impact investment opportunity: leveraging existing PHC infrastructure to deliver longitudinal care, reduce hospital admissions, and improve population health outcomes. For clinicians, integration enables earlier diagnosis, continuity of care, and improved patient engagement—especially when supported by simplified clinical protocols, task-shifting to non-physician health workers, and digital health tools. Successful models such as WHO's PEN and PEN-Plus initiatives demonstrate feasibility in resource-constrained settings, particularly when paired with community engagement, reliable supply chains, and strengthened health information systems. Integration also allows for synergistic delivery of NCD services alongside maternal and child health, HIV, and TB programs—maximizing efficiency and reach.

### Abstract C-034 : Community-Based Interventions and role of NGOs for NCD Prevention in Africa

Nyamongo M, Karekezi C, Ayodo G, Kwamboka M, Gathecha G

NCD Alliance, Kenya

Community-based interventions are critical for Non-Communicable Disease (NCD) prevention, control and management in Africa. Non-Governmental Organisations (NGOs) work with Community Health Workers (CHWs) and local leaders to deliver services, foster community engagement and advocate for appropriate policies that ensure integration and culturally sensitive NCD care. The right policy frameworks ensure that community-based interventions and NGO-led initiatives for NCD prevention are well-coordinated, sustainably financed, integrated into national health systems, and aligned with broader Universal Health Coverage (UHC) and primary healthcare (PHC) goals. NGOs, such as the NCD Alliances, have played a major role in mobilizing patients to form patient groups that have become key advocacy groups for NCDs, more so with a focus on access to treatment and care. Case studies Across Africa, several community-based and NGO-led interventions have demonstrated measurable success in preventing and controlling NCDs. For example in Rwanda and Malawi, NGO-supported CHW models have integrated hypertension and diabetes screening into routine home visits, leading to earlier

detection and improved treatment adherence (other case studies will be cited during the presentation). These initiatives illustrate how community-based and NGO-driven efforts can expand access to care, enhance awareness, and contribute to measurable reductions in NCD risk factors and conditions, particularly among underserved populations. Challenges and lessons learnt Despite their successes, community-based and NGO-led interventions for NCD prevention face several challenges that limit their scalability and sustainability.

### Abstract C-035 : Harnessing our Common African Genomes to Improve Health Globally

Wonkam A

Johns Hopkins University School of Medicine

Africa, as the cradle of modern humans, holds unparalleled genetic diversity. However, less than 2% of sequenced human genomes come from individuals of African ancestry. We argue that investing in African genomics is a scientific imperative, driven by three major pillars: Ancestry, Ecology, and Equity. Ancestry. Over 300,000 years of human history in Africa, is marked by various waves of migration within African, out of African and back to Africa, and related genetic admixture have resulted in a rich pool of unique genetic variants. For example, studies such as those by the H3Africa consortium identified millions of previously undocumented variants, most of which are population specific. This extreme diversity offers vast opportunities to uncover genetic factors that contribute to health and disease. Ecology. Africa's vast ecological, linguistic, and cultural diversity has exerted strong selective pressures on its populations, shaping genetic variation in distinct ways. Examples include Sickle cell trait (HBB), which offers protection against malaria; APOL1 (G1/G2 variants), which guard against trypanosome infections but increase kidney disease risk, Lactase persistence mutations, allowing digestion of milk in adulthood among select African ancestry such as the -13910\*T variant west of Lake Chad (Fulani and Tuareg pastoralists) and the -13915\*G east of there (mostly Arabic-speaking pastoralists). These adaptations highlight how African genetic variants have functional implications, particularly for infectious diseases and metabolic conditions. Equity. There is a critical need to address the underrepresentation of African genomes in biomedical research.

### Abstract C-036 : Empowering data-focused research: the Ensembl platform and training programme for capacity building

Batista da Rocha J

European Bioinformatics Institute (EMBL-EBI)

The Ensembl Genome Browser has been an indispensable tool in the field of genomics, aiding researchers around the world in their research for over 25 years. The Ensembl database provides visualisation and comprehensive analyses of integrated genomic data, including genes, variants, comparative genomics and gene regulation, for over 5,000 eukaryotic and over 30,000 prokaryotic genomes. The Ensembl resource is open and freely accessible to allow researchers, educators, and students worldwide to explore and build upon genomic information without barriers. To meet the growing demands of the data-driven life sciences and health research communities, the new Ensembl data platform (<https://beta.ensembl.org/>) has been developed to deliver enhanced features, improved

data visualisation, and a more intuitive user experience. The new Ensembl hosts new human genomes, including the most complete human genome - the T2T- CHM13 telomere-to-telomere assembly. The Ensembl Outreach Team delivers free training globally to show researchers and clinicians how to access and explore genomic data. This team has developed and run a "Train the Trainer" workshop to empower educators to teach data-focused subjects within their own communities. This talk will provide an overview of Ensembl's open data platform, and highlight how the Outreach Team supports health and life science education by helping participants build practical skills in genomics and using bioinformatics data.

### **Abstract C-037 : Africa Biorisk Management Trainers' Networks Best Practices and Accomplishments**

Leesman J

Sandia Laboratories, New Mexico USA

These training not only provide a thorough foundation of biorisk management strategies and adult friendly techniques for designing and conducting independent trainings, but also support the creation of long-lasting relationships throughout the series. Trainers are given access to the Sandia Global Biorisk Management Curriculum (GBRMC), which houses over 40 courses ranging from the basic track to laboratory-level track to management and leadership. Each course comes with design documents, instructor and student guides, key references and evaluations. This curriculum was developed to be interactive and flexible, enabling the user to configure and customize the courses based on their needs, situation, and unique context. All the courses we use to build these networks have been translated into the four major languages of our participants: English, French, Arabic and Portuguese. At the end of the four trainings, which is the completion of the formal training for a regional cohort of trainers, our team provides continued subject matter expertise and facilitates relationship building between the participants nationally, regionally and across regions. Many of our trainers act as cotrainers for networks in other regions, which improves cross regional collaboration, provides day-by-day in-person feedback from our team, and validates training techniques. The outcomes of these networks are innumerable and have far surpassed original expectations- network trainers routinely collaborate both nationally and internationally to plan and deliver trainings, create national biosafety/biosecurity associations, develop national university curricula and governance, and improve biorisk management at their institutions.

### **Abstract C-038 : Strategic, Perspectives on Artificial Intelligence, Preparedness, and Response to Bioterrorism in MENA**

Farhat H

Manager, Group Quality, Patient Safety and Risk Management, Doha Qatar

Bioterrorism represents an escalating security threat in the Middle East and North Africa (MENA) due to geopolitical instability, the potential expansion of extremist groups, and the unique risks posed by mass- gathering events. This session outlines principal biological threat classes and explains their operational attractiveness to terrorists as they can cause mass casualties, induce widespread fear, and rapidly overwhelm health systems with relatively accessible materials

and knowledge. Regional risk is amplified by religious mass gatherings and cross-border mobility, creating high-density transmission potential and substantial operational complexity for healthcare responders. The session then discusses artificial intelligence (AI) as a dual-use capability that can simultaneously strengthen preparedness and inadvertently empower adversaries. On the preparedness side, AI can enhance biosurveillance, early agent classification, decision support, and antidote logistics, with prototype systems demonstrating high accuracy when underpinned by standardised data and rigorous validation. Conversely, the development of advanced models and datasets risks enabling threat actors to gain capabilities, necessitating rigorous governance, ethical oversight, and safeguards to prevent misuse. The session also argues for structured international-regional collaboration that convenes global experts with MENA stakeholders to co-design innovative, context-specific preparedness and response strategies. Priorities include national and international collaboration to ensure resilient, effective preparedness and response to these emerging threats. Regional and international expert collaboration is essential to develop innovative preparedness and response strategies that build resilient health security infrastructure against these emerging threats.

### **Abstract C-039 : Developing a Responsible Research Culture Through Proactive Biorisk Management**

Benkhalifa R

Lab. Biomolecules, Venom and Theragnostic Applications (LBVAT), Pasteur Institute of Tunis, Tunisie

The rapid advancements in life sciences have given rise to a profusion of unprecedented opportunities, particularly in the fields of healthcare, agriculture, and environmental sciences. Nevertheless, with increasing global interconnectivity, the need for responsible research practices is more crucial than ever. Indeed, inherent risks arise when research is conducted without sufficient attention to safety, security, and ethics. Consequently, proactive biorisk management is strongly recommended, as it can play a pivotal role in establishing a responsible research culture. This underscores the necessity of incorporating biosafety, biosecurity, and dual-use awareness into research practices, rather than perceiving them exclusively as regulatory obligations. The promotion of transparency, continuous learning, and accountability is integral to the effective management of biorisk, with the concomitant benefits of reduced potential harm and enhanced public confidence in science. The strategy should be developed in accordance with international guidelines and institutional experience, and is anchored at multiple levels, from laboratory protocols and risk assessments to leadership involvement and mentoring programs. It is therefore evident that the establishment of a responsible research culture is predicated on the alignment of technical safety measures with ethical principles, thereby ensuring that scientific advances are beneficial to society whilst minimizing biological risks. Finally, as a case in point, the approach adopted by the Institut Pasteur of Tunis will be presented.

### **Abstract C-040 : TRACEMED: Innovation for Infection Control in LMICs Settings**

Germani A, Farra A, Maria Farah J, Abou Nader C, Tarabay A, Nader L, Sleiman E, Malaeb H, Nuwayhid I

American University of Beirut

Antimicrobial resistance (AMR) is a growing public health threat, particularly in low- and middle-income countries (LMICs), where high infectious disease burdens, antibiotic misuse, weak infection control, and limited diagnostics fuel the rise of multidrug-resistant organisms (MDROs). In a low-resource 400-bed hospital in Maiduguri, Nigeria, patient admission and tracking relies on a paper-based system with no structured transfer documentation. This, combined with a low nurse-to-patient ratio, Results in frequent unrecorded patient movements, increasing the risk of MDRO transmission and compromising infection control efforts. This project aimed to design and test a low-cost patient tracking system that improves infection control and real-time MDRO isolation response in a resource-constrained hospital, aligning with public health innovation and digital transformation goals in the region. The initiative was led by the Humanitarian Engineering Initiative in collaboration with Médecins Sans Frontières (MSF), and by a multidisciplinary team of undergraduate students enrolled in the Minor in Humanitarian Engineering and Public Health Innovations. The team included students majoring in nursing, engineering, public health, biology, and economy, who together co-designed a tested prototype integrating QR code wristbands and a cloud-based dashboard for real-time patient location tracking and lab result alerts. Building on methodologies and tools acquired throughout their academic program, the students followed the Humanitarian Engineering design cycle. A human-centered design approach was adopted engaging stakeholders -MSF and Maiduguri hospital staff - in every step of the process needs assessment, problem identification, iterative design focusing on feasibility, prototyping, and testing.

**Abstract C-041 : Wounds that echo: exploring the socio-structural determinants of community violence in post-apartheid south africa in the wake of covid-19**

Taliep N, Ismail G

University of South Africa

The COVID-19 pandemic and its associated public health measures significantly altered the social, economic, and psychological landscape of communities worldwide. In South Africa, the post-COVID-19 period has been marked by a notable surge in violence, with elevated homicide rates and intensified interpersonal and community violence. Drawing on Galtung's structural violence framework, this qualitative study explores the multifaceted nature of community violence during and after the COVID-19 pandemic, examining how the pandemic and concomitant public health measures exacerbated and reshaped patterns of harm. Utilising data from in-depth interviews and focus group discussions, this study analyses the lived experiences of residents in two high-risk South African communities, unpacking the interplay between structural inequities, social disintegration, and evolving forms of violence. The findings highlight how pandemic-era stressors compounded pre-existing vulnerabilities, exacerbating tensions within households, communities, and public spaces. Findings emphasise the need for interventions that not only address immediate triggers, but also the deeper historical and structural determinants of violence in the post-pandemic era, while ensuring preparedness for effective violence prevention during future pandemics.

**Abstract C-042 : Reflexive insights on networking, solidarity, and community activism spaces for violence prevention in post-covid-19 South Africa**

Ismail G

University of South Africa

The COVID-19 pandemic deepened the existing vulnerabilities marginalised South African communities face daily, and intensified risk factors for injury and violence while disrupting established prevention mechanisms. This paper will examine the transformative potential of networking, solidarity, and community activism spaces post-COVID in advancing violence prevention within the South African context, where communities continue to contend with structural disparities and enduring levels of interpersonal violence. Using a qualitative case study design, this study draws on individual interviews conducted in a local Western Cape community. Thematic analysis was employed. The findings illustrate how networking, solidarity-driven approaches and community activism spaces not only mitigated the immediate impacts of COVID-19 but also generated sustainable frameworks for community-led violence prevention. The findings call for a shift from top-down interventions to grounded, participatory, community-based strategies that position solidarity and collective agency as central to achieving safety, justice, and social transformation.

**Abstract C-043 : Developing a mobile app to monitor safety and peace in communities: a feasibility study**

James S, Taliep N, Ismail G

University of South Africa

Safety and peace within communities are reliant on various factors, including the eradication of violence and crime. Violence and crime, which remain major concerns globally and within South Africa, have a dire impact on the health and overall well-being of communities and hamper advancements toward safety and peace. Addressing these public health imperatives requires the development of reliable and contextually relevant instruments that measure community safety and peace. This could assist in assessing levels of safety and peace within communities, identify gaps for targeted interventions, and evaluate the effectiveness of such initiatives. Stemming from a larger research study where such an instrument was developed, titled the Community Safety and Peace Index (CSPI), this study aims to develop a mobile application ("app") as a contextually relevant instrument that could be used to monitor levels of community safety and peace in real time, particularly by observing the physical environment, which often serves as a catalyst for safety and peace. The current presentation will outline the process of developing the CSPI Mobile App, comprising various iterative phases with the research team and app developers, as well as the challenges and successes encountered during the development process. The presentation will also report on the initial findings from the feasibility study of the mobile app, using a pilot group from the participating community.

**Abstract C-044 : Grounding policy in people: a community-based participatory approach to gbv prevention and public health reform**

Rinques N, Taliep N, Ismail G, James S

University of South Africa

Gender-Based Violence (GBV) represents a persistent public health crisis in South Africa, demanding coordinated policy reform and a multi-sectoral response. Although the South African Government has enacted key legislative advances, including the Domestic Violence Amendment Act (2021), the Criminal Law (Sexual Offences and Related Matters) Amendment Act (2021), and the Criminal and Related Matters Amendment Act (2021), gaps remain in the translation of these policies into effective community-level interventions. In September 2025, a community-based participatory seminar was convened in Strand in the Western Cape, in response to the escalating rates of GBV and femicide. The seminar engaged public health professionals, justice sector representatives, activists, and community leaders to identify local barriers to GBV prevention and survivor support. Key challenges identified included fragmented service delivery, weak integration between health and justice systems, and insufficient psychosocial support mechanisms for survivors. Grounded in a Community-Based Participatory Action Research (CBPAR) framework, the process generated locally driven collaborative strategies for strengthening policy implementation, enhancing coordination between health, justice, and social services, and building accountability structures to enhance the reach of the National Strategic Plan on GBV (2020 – 2030). The findings highlight the urgent need to position GBV within a public health paradigm that prioritises prevention, and survivor-centred care, through community engagement. By positioning communities as co-implementers and monitors of policy, this paper demonstrates how participatory approaches can bridge the gap between legislative reform and everyday safety, inform equitable GBV prevention, and offer a scalable model for inclusive public health policy implementation.

#### **Abstract C-045 : Suicide in the Mpumalanga Province, South Africa: Analyzing Epidemiological Trends and Implications for Public Health**

Arendse N, Niekerk A.V

University of South Africa

Despite increased recognition by state and non-government institutions of the suicide problem, South Africa's estimated suicide rate exceeded the global and African region's rate by nearly three times in 2023. Even with significant South African interest in suicide, there is still limited population data on the epidemiology of suicide, especially outside its urban centres, and since the recent COVID-19 pandemic. Data was extracted from a South African-based Injury Mortality Surveillance System, an epidemiological injury mortality application implemented in the Mpumalanga Province Forensic Pathology Service facilities, to determine the epidemiology of suicide in Mpumalanga, South Africa, from 2018 to 2024. The Mpumalanga Province, characterized by semi-rural areas, is home to 7.8% of the South African population. Quantitative univariate statistics were employed to generate sex and age rates by year and frequencies for the occurrence variables. The province reported 4,696 suicides over the study period, when the burden increased by 28.2%, from 13.8 to 15.01 deaths/100,000 population. The male suicide rate (at 23.2/100,000) was higher, nearly double the national rate (14/100,000), and the male-to-female ratio was 3.8:1. The age group 20 to 39 years presented the highest risk for suicide. Most victims died by hanging and poison ingestion. Unique incidents were observed during the COVID-19 pandemic, including suicides among nine-year-olds. The likely

underreporting of data may misrepresent Mpumalanga Province's suicide profile and subsequently restrict prevention scale-up efforts targeting underlying mental disorders.

#### **Abstract C-046 : Cancer screening in Lebanon**

M. Adib S

American University of Beirut

Lebanon's population is about 5 millions, on a surface of 10500 km<sup>2</sup>. About 40% of the population is composed of refugees from old and recent conflicts in the region. Around 1 in 4 persons in Lebanon is < 15 years of age (24.6%) and decreasing (UNFPA). Around 11% of the population is ≥65 years, expected to more than double by 2050 to 27.1% (UNFPA) Life expectancy: men: 79; women; 82 (WHO Bulletin, 2023) About 60% of the population resides in and around the capital city Beirut, where most of the economic, social and academic life, as well as the largest health care facilities, are concentrated. Cancer is typically diagnosed in Beirut, but the majority of treatment modes can be obtained in other localities. WHERE DO WE GO FROM HERE? Increase the implementation of the National Cancer Control plan (2023), especially regarding cancer screening. Support the continued activities around breast cancer screening and adopt a national vision for CRC screening. Improve awareness regarding the need for cervical and skin cancer screenings. Monitor the adherence to more conservative indications for prostate cancer screening. Establish the accreditation and spatial distribution of LDCT for lung cancer screening, and better still increase the efforts for smoking cessation.

#### **Abstract C-047 : AI Readiness in Qatar's Humanitarian Ecosystem: Bridging Research, Training, and Practice**

Oussama Attia Y

Qatar University

As humanitarian organizations increasingly explore artificial intelligence (AI) to enhance efficiency, situational awareness, and decision-making in complex and resource-constrained settings, the gap between technological innovation and workforce readiness remains a critical challenge. Effective and ethical AI adoption depends not only on access to tools, but also on organizational preparedness, governance structures, and staff capacity. Qatar plays a strategic role in global humanitarian coordination and financing, making it an important context for examining how research evidence can inform training and institutional strengthening. A cross-sectional online survey was conducted among humanitarian professionals in Qatar between November 2025 and January 2026. The survey was guided by two complementary frameworks: Organizational Digital Transformation Readiness (ODTR) to assess infrastructure, leadership, governance, and organisational culture; and the Unified Theory of Acceptance and Use of Technology (UTAUT) to explore individual perceptions, confidence, and intention to use AI. Survey domains included digital maturity, ethical frameworks, AI and data experience, and capacity-building needs. Descriptive statistics were used for quantitative analysis. A total of 63 respondents participated, with a near-even gender split (52.4% female) and most aged 26-45 (66.7%); over half held a Master's degree. Participants represented governmental organisations (42.9%), local NGOs (22.2%), UN/international organisations (22.2%), and academia (9.5%). Half (50.8%) reported prior involvement in AI- or data-related projects, yet only 42.9% indicated confidence in understanding AI (with a

substantial proportion selecting "not applicable / don't know").

### **Abstract C-048 : Simulation Increases Confidence in Critical Access Hospital Disaster Response Among Interprofessional Learners**

Langenfeld J, Willet K

University of Nebraska Medical Center, Omaha, NE, USA

Mass casualty incidents (MCIs), including natural disasters, pandemics, multi-vehicle traffic accidents, and mass shooting events, are rare but are becoming a more frequent encounter in emergency medicine. Training emergency medicine physicians for these events can be difficult given the inconsistency and variability of experience during residency. Tools such as SALT (Sort, Assess, Lifesaving-interventions, Treat/Transport) triage have been developed to standardize response to MCIs, but can only be prepared to a degree of preparation. One method of improving training and education is through simulation, which provides a controllable safe training environment that can improve knowledge, clinical skills, and comfort with rare scenarios. Voluntary participants included emergency medicine residents, medical students, nurses, pharmacist, and EMS providers. A pre-survey was obtained assessing familiarity and comfort with concepts and confidence in MCI management. The participants underwent 2 hours of education with directed hands-on training followed by a 2 hour disaster simulation exercise. The simulated event included EMS response, critical access hospitals with limited resources, and tertiary referral center. Tasks included initial care triage, resource management, and transportation logistics. Post survey data was collected following education and simulation. Surveys were collected on Qualtrics using the Likert scale (1-5) with pre- and post-survey averages. Comparison of pre and post survey responses showed improvement in familiarity and comfort for all metrics by an average of 1.2 and 1.3 points, with the largest improvement seen on SALT Triage (1.7, 1.8), Dry-Decontamination (1.4, 1.6), and Wet-Decontamination (1.4, 1.6).

### **Abstract C-049 : Walking a Tightrope: Navigating Operational and Research Challenges in War-Conflict: The Case of Amel Association in Lebanon**

Ghassani A

AMEL Association

Local NGOs operate at the epicenter of humanitarian crises, embodying the critical link between international aid architecture and affected communities. However, their role in active conflict zones is fraught with unprecedented challenges that threaten both service delivery and evidence-based action. This presentation delves into the dual role of Lebanon's Amel Association International as both a frontline service provider and a necessary research entity during periods of intense conflict and political-economic collapse. Through this presentation, we explore the intricate challenges of sustaining humanitarian operations while simultaneously generating crucial field data. Focusing on operational challenges during conflict, we outline how Amel navigated severe constraints including: Security protocols, high demand of displaced citizens, staff displacement, Breakdown of core infrastructure, financial instability and coordination with other actors under the umbrella of ministry of public health. It is imperative to shed the light on how the healthcare centers were targeted, and

how this affected saving lives. Concurrently, the presentation investigates the under-examined challenges of conducting research in a war context. For Amel, generating real-time data was essential for adapting programs yet posed significant hurdles: (1) The ethical imperative of "do no harm" while collecting sensitive information from vulnerable populations in insecure environments; (2) The methodological difficulty of gathering reliable, systematic data amid population displacement, communication blackouts, and overwhelming immediate needs; and (3) The operational tension between dedicating scarce resources to life-saving activities versus the critical, yet less immediately visible, task of data collection and analysis.

### **Abstract C-050 : The corporate capture of public health in armed conflicts and crises**

Makhoul J, Nasreddine L

American University of Beirut

The commercial determinants of health (CDOH) and the adverse impacts they have on health equity globally, have recently emerged as an innovative growing field of research in public health. The corporate playbook comprises a myriad of strategies and tactics that aim to enhance profitability for the commercial actors, while harming health and posing grave risks to planetary health for current and future generations. The impacts they have on low-income countries of the world are not much discussed in the relevant global literature beyond specific industries and the pertinent research thereon. Additionally, the body of knowledge rarely explicitly makes the connection between commercial determinants and the impact they have on the public's health and the environment in times of crises such as armed conflicts and war. Rationale This presentation aims to use the commercial determinants of health lens to make a case for its integration into public health discourse, education and research to strengthen the understanding of commercial determinants and the challenges they pose to well-being globally and in the Arab World in particular. The presentation illustrates how commercial actors continue to influence people's health globally while increases their profit, taking advantage of war and crises where vulnerability is heightened. Relevant public health outcomes of the use of arms include in addition to death, long term disability, and mental health harms.

### **Abstract C-051 : The Humanitarian and Medical Crisis in Palestinian Territories: The Plight of Patients With Congenital Bleeding Disorders and Health Care Under Siege**

Jadallah Tawil J.K , Gringeri A, Malouf R, Marchesini E

Premier Specialty Hospital in the West Bank, Palestine

The Palestinian territories, especially Gaza and the West Bank, are suffering a severe humanitarian and medical crisis due to ongoing conflict, blockades and resource shortages. Healthcare infrastructure is devastated, limiting access to care - especially for patients with chronic conditions like congenital bleeding disorders (CBDs). A detailed medical perspective on the healthcare situation in Palestine Territories was investigated via publications in the scientific literature, reports from non-governmental organizations, personal interviews with patient associations. Hospitals in Gaza are beyond capacity, prioritizing trauma over chronic disease management. Medical facilities

face damage and medicine shortages due to blockades, worsening patient outcomes. Healthcare workers endure extreme workloads, poor protection and frequent attacks, leading to burnout and high mortality. Continuous violence Results in widespread trauma and mental health issues, particularly affecting children and vulnerable groups. Moreover, patients with CBD face chronic shortages of clotting factor medications, lack of comprehensive treatment centres and reliance on episodic rather than prophylactic therapy. This leads to increased complications and disability for approximately 562 Palestinians with CBD. Patient stories illustrate the reality of displacement, delayed surgeries and inadequate care. International aid efforts, such as support from the World Federation of Hemophilia and Haemo-Pal project, aim to improve care but are hampered by ongoing conflict, restricted movement and bureaucratic delays. Immediate humanitarian action is needed to protect healthcare infrastructure, ensure unrestricted medical access and allow safe patient evacuation, supported by international advocacy to safeguard health rights during conflict.

#### **Abstract C-052 : Community Mental Health Programming in Gaza, Palestine: The Healing Through Feeling (HTF)**

Ayna D

American University of Beirut

This presentation will describe Healing Through Feeling, a community mental health intervention that targeted trauma reactions of children in the kindergartens of Gaza from 2014 until the current war of 2023, and supporting psychosocial programming by United Palestinian Appeal (UPA). The presentation will discuss UPA's innovative model to improving children's well-being through a comprehensive approach, which entailed skills groups and individual counseling sessions with caregivers and KG teachers, in order to build a cushion of support around children by improving their environment. Dr. Dinah Ayna, the clinical supervisor for this program, will share the details of the program and its evolution over time, as well as extended services offered as needs on the ground changed before and during the war.

#### **Abstract C-053 : Landscape of mental health and suicide in africa: the need for member states to prioritize access to mental health and suicide intervention services**

Latreef Sheikh T

Ahmadu Bello University Zaria Nigeria

Mental health and many common mental disorders are shaped to a great extent by the social, economic, and physical environments in which people live. Social inequalities are associated with increased risk of many common mental disorders, while most of the social determinants of mental health and suicide are outside the fringes of health administration. Mental health is one of the most neglected areas of health in the world and even worse in Africa. Despite the impact of mental health conditions on individuals, families and society, and the high levels of mental health disabilities, more than 85% of people with severe mental illness in low-and-middle income countries do not receive the care they require. This gap could be as high as 95% in some African countries. There is less than 1 mental health professional for every 100,000 people (average 1:1000,000 in Sub-Sahara Africa) and human rights violations against people with severe mental health conditions

are widespread. Investment in mental health, particularly in community-based services is poor, public expenditure on mental health are very meager. African countries spend 1%-2% of their health budgets on mental health; and more than 80% of these funds go to standalone psychiatric hospitals. International development assistance for mental health is estimated to be less than 1% of all development assistance for health. The relation between mental health and suicide is glaring, and the burden of suicide especially among youth (15-29years old) has attained a crisis point in Africa. Suicide is a compulsive desire for self-inflicted death.

#### **Abstract C-054 : Engaging with the Arab/MENA Community: AI in Healthcare Deliberation Insights**

Hammad A, Hamasha R, Saleem D, Platt J

Global Health Research Management and Solutions

As Artificial Intelligence (AI) continues to influence health-decision making and the future of health research, population-representative data is essential to achieving equitable health outcomes. Historically, data about marginalized communities, such as the Arab/Middle Eastern and North African (Arab/MENA) communities, have been underrepresented in public health databases. To eliminate this gap, U.S. health systems must develop innovative approaches that value and prioritize the needs of underrepresented communities. To ensure culturally competent clinical decisions, Arab/MENA American populations should be meaningfully represented in AI data training sets. The recent inclusion of the MENA category in the US Census presents an opportunity to address and distinguish underlying health disparities that may have been masked under the previous categorization of White. The **Introduction** of this new category creates opportunities for inclusive health research, improved trust and transparency in health systems, and health equity when AI is used in healthcare. This presentation, in partnership with a deeply rooted community-based organization Arab Community Center for Economic and Social Services (ACCESS), reflects on engaging Arab/MENA Americans to assess their perspectives on integrating AI in healthcare. Our outreach revealed important lessons for inclusive research practices, highlighting the need to recognize the community's diversity. We conducted a Democratic Deliberations (DD) session with the Arab/MENA community (n=33) in Southeast Michigan, specifically Dearborn, Michigan as part of our larger study involving five sessions (n=159). Participants were recruited with the support of the community health organization, ACCESS. We reached out to participants through phone calls, emails, text messages, and flyers posted throughout the organization.