



# Abstracts



# **Abstracts**

**15<sup>th</sup> FMIC Annual International Scientific Conference  
& 15<sup>th</sup> Quality Convention**

**“Transforming Healthcare: Education, Innovation, Quality and Sustainability”**

**November 13, 2025**

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## **Acknowledgement**

The organizing committee of FMIC's 15th Annual International Scientific Conference and 15th Quality Convention expresses its deepest gratitude to our distinguished partners, including Global Affairs Canada (GAC), Agence Française de Développement (AFD), the Aga Khan Foundation (AKF), and others, for their generous financial and in-kind support. Your contributions were pivotal in ensuring the success of this important event.

Your collaboration not only supported this conference but also underpins numerous essential programs aimed at advancing healthcare access and quality. We look forward to building on this partnership to further enhance research, knowledge sharing, and healthcare initiatives in Afghanistan and beyond.

We remain deeply grateful for your continued partnership and unwavering commitment to improving health outcomes and elevating the standards of care for all.

## Message from Chief Executive Officer

### Dear Participants,

On behalf of the Board and Management of the French Medical Institute for Mothers and Children (FMIC), it is my great pleasure to welcome you to the 15th Annual International Scientific Conference and 15th Quality Convention.

This year's theme, "Transforming Healthcare: Education, Innovation, Quality, and Sustainability," reflects our shared commitment to shaping a resilient and equitable healthcare system for Afghanistan and the broader region. Over the years, FMIC has stood as a symbol of collaboration and hope—a partnership between the Governments of Afghanistan and France, the Aga Khan Development Network (AKDN), and our esteemed French partner, La Chaîne de l'Espoir. Together, we continue to uphold a vision that combines medical excellence with compassion, learning, and service.

Despite the formidable challenges our country continues to face, FMIC's dedication to improving healthcare access remains unwavering. With the continued support of our partners, donors, and well-wishers, we take immense pride in having served over two million patients across Afghanistan. Our Postgraduate Medical Education (PGME) program now offers specialized training in nine disciplines, including four rare specialties that remain unique in the Afghan context.

FMIC's progress is grounded in its pursuit of quality and safety, as demonstrated by our SafeCare Level 5 certification—a recognition of excellence achieved through the dedication of our teams. Beyond providing care, we are investing in education, innovation, and sustainability—the very foundations upon which the future of healthcare will be built.

As we move forward, FMIC remains committed to expanding learning opportunities, strengthening partnerships for research and innovation, and ensuring that our operations contribute positively to environmental conservation. I invite all participants to engage actively during this conference, share insights, and explore ways in which we can collectively transform healthcare delivery in our region.

I extend my deepest gratitude to all speakers, participants, and organizing teams for their invaluable contributions. Your dedication continues to inspire hope and progress for the people of Afghanistan.

Best regards,

Aziz Ahmad Jan

**Chief Executive Officer**

French Medical Institute for Children (FMIC)

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## Conference Program

Theme	Presentation
<p><b>Session 1</b> Non-Communicable Diseases, Mental Health, Occupational &amp; Environmental Health</p>	Assessment of Community Awareness About Cancer and Its Risk Factors in Kabul, Afghanistan: A Cross-Sectional Survey
	Surgical Outcome of Coxa Vara at Tertiary Hospital
	Cytological Profile of Pap Smear among Afghan Women: A Study from a Tertiary Care Center in Kabul, Afghanistan
	Assessment of Knowledge, Attitude, and Practice of Hospitalized Patients Regarding Prevention of Heart Diseases at Ali Abad Teaching Hospital, Kabul, Afghanistan
	Successful Management of a Brain Abscess In An Uncorrected Congenital Heart Defect Patient: A Case Report And Review Of The Literature
	Healthcare Waste Management Practices: The Cases Of Ali Abad And Maiwand Teaching Hospitals, Kabul, Afghanistan. A Cross-Sectional Study
	Incidence and Associated Risk Factors of Colorectal cancer, Diagnosed at Tertiary level, in Afghanistan: A Case-Control Study.
	From Stress to Strength: Assessing Stress, Coping Strategies, and Impact of Psychosocial Intervention among Parents of Children with Autism
	Stroke Care Gaps in Afghanistan: Opportunities and Barriers to Thrombolytic Therapy in Kabul
	Mental Health Service Utilization in Kabul: Patterns in Severe, Common, and Substance use disorders
<p><b>Session 2</b> Reproductive, Maternal, Newborn and Child Health</p>	A Public Health Challenge: Low Breast Cancer Awareness Among Women in the Capital City of Afghanistan
	Age-related clinical manifestation of Acute Bacterial Meningitis in children aged 3 months till 14 years in hospitalized children in a tertiary care hospital of Afghanistan
	Factors Associated with Respiratory Distress Syndrome in Preterm Neonates Admitted to a Tertiary Hospital in Kabul City: A Retrospective Cross-Sectional Study.
	Chromosomal karyotyping for detection of random and as well as familial chromosomal abnormalities in Afghanistan
	Risk Factors Associated with Hypertensive Disorders in Pregnancy: A Retrospective Case-Control Study at FMIC, Kabul
	A Descriptive Study of Placental Abruption Cases at Malalai Hospital: Year 2023
	Prevalence of Premenstrual Syndrome (PMS) Among Female Biomedical Students in Kabul, Afghanistan: A Cross-Sectional Study
	Prevalence and Clinical Profile of Polycystic Ovary Syndrome among Reproductive-Aged Women at Shefajo Specialized Hospital during 2022-2024: A Cross-Sectional Study
	Provincial Disparities in Maternal and Child Health, Service Access, and Multidimensional Poverty in Afghanistan: A Comparative Analysis of Multi Indicator Cluster Survey 2022/23 Data
	Postpartum hemorrhage and its associated factors: A matched case-control study
Managing Hypoxic-Ischemic Encephalopathy without Therapeutic Hypothermia: Outcomes from a Tertiary Care Hospital in Kabul-Afghanistan	

<p><b>Session 3</b> Communicable Diseases</p>	Descriptive analysis of Acute Watery Diarrhea outbreak in Parwan Province, 2025
	Evaluating oral miltefosine and sodium stibogluconate for the treatment of cutaneous leishmaniasis in Kandahar, Afghanistan.
	Changing Dynamics of Bloodstream Infections and Resistance Profiles Insights from Three Study Phases (2010–2015 vs 2023–2024)”
	Analysis of cholera in Aden governorate from 1st January-31st December 2024
	Assessment of Parent’s Knowledge, attitudes, behaviors, and cultural beliefs Regarding Polio Vaccine at Maiwand Hospital(A Cross-sectional Study
	Knowledge, Attitude, and Practice of Healthcare Workers Towards childhood vaccination: Insights from Health Facilities of Kandahar, Afghanistan
	Childhood Immunization Coverage in Afghanistan: Tracking Progress and Gaps
<p><b>Session 4</b> Quality and Patient Safety</p>	A Preventable Error (Gossypiboma) with Deadly Consequences: A case series of 13 patients
	Strengthening Knowledge and Compliance with CLABSI Prevention Bundles: An Educational Intervention in the ICU of a Tertiary Hospital in Kabul, Afghanistan
	Educational Intervention to Improve Documentation Compliance and Staff Knowledge in Critical Care Units: A Quasi-Experimental Study in Kabul, Afghanistan
	Strengthening Communication, Safety, and Quality of Care through Structured Huddles: A Transformational Experience from the NICU of a Tertiary Hospital in Kabul, Afghanistan
	Improve staff knowledge practice on Care Bundles to prevent Catheter-Associated Urinary Tract Infection
	Management of dead stock: a strategic approach to reduce waste and improve efficiency
	Strengthening Patient Education through Visual Teaching Aids in Adult Cardiac Care at a Tertiary Hospital in Kabul, Afghanistan
<p><b>Session 5</b> Nursing, Midwifery, and Allied, Nutrition and Food Security</p>	Prevalence of undernutrition and associated factors among pregnant women in a CHC clinic in Kabul city, Afghanistan, 2025: A cross-sectional study design
	Isolation, Identification and Antibiotic Susceptibility Profile of Methicillin-Resistant Staphylococcus aureus (MRSA) in Jalalabad
	Nursing, midwifery, and allied health professions education in Afghanistan: Current status and a vision for the future
	Association of maternal nutrition knowledge with nutritional status of children under 2 years old in Laghman province
	Reducing the Number of Cardiac Arrests Through Training and Execution of Rapid Response Team
	Challenges in Nursing Management of Neonates with Hypoxic-Ischemic Encephalopathy in a Resource-Limited NICU
	The First Golden Hour: Promoting Early Breastfeeding for Mother and Newborn Health
	Seeing Beyond the Image: Strengthening Chest X-Ray Interpretation among Staff Working in Critical Care Areas
Impact of Night Shifts on Mental Health of Critical Care Nurses in Kabul, Afghanistan	
<p><b>Session 6</b> Health System, Health Education,</p>	Assessment of the Quality of physical rehabilitation services at Secondary and tertiary health facilities in Kabul, Afghanistan: A mixed method study.
	Assessment of Pharmaceutical Storage Practices in Afghanistan’s BPHS and EPHS Health Facilities
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<p>Health Innovation</p>	Impact of Tele ICU Services in the Rural Healthcare Setting of Gilgit Baltistan and Chitral, Pakistan
	From Baseline to Improvement: Results of a Follow-Up IPC Assessment in Public Hospitals Across Afghanistan
	Enhancing the awareness of policymakers about Non-Communicable Diseases tsunami in Afghanistan: A Health in All Policy Dialogue
	Evaluation of a PGME Program: Aligning with International Standards for Improvement
	Transforming Maternal and Child Health Access in Fragile Contexts: An Innovative Model for Quality and Patient Safety at FMIC, Afghanistan
	Knowledge and awareness of Artificial intelligence among medical staffs in Kabul city





**Oral Presentations**

**Scientific Sessions**

Abstracts



## **Session 1**

# **Non-Communicable Diseases, Mental Health, Occupational & Environmental Health**

# **Assessment of Community Awareness About Cancer and Its Risk Factors in Kabul, Afghanistan: A Cross-Sectional Survey**

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## **Abstract**

### **Background:**

Cancer is one of the leading causes of morbidity and mortality worldwide, and public awareness plays a crucial role in early detection and prevention. To date, no study has been conducted on the level of public awareness regarding cancer and its risk factors in Afghanistan; to determine the extent of people's knowledge about cancer and which factors influence this awareness.

### **Methods:**

A cross-sectional survey was conducted among 500 male participants from five zones of Kabul city. Data were collected using convenience sampling method and structured questionnaires, including both closed- and open-ended questions. Statistical analysis was performed using Chi-square, regression, and correlation tests in SPSS (v.26).

### **Results:**

Findings revealed that 89.8% of participants had low awareness level (<50%), 10.2% moderate (50–70 correct response rate), and none scored above 70%. From open-ended responses, participants mentioned 45 different symptoms of cancer, with unexplained weight loss (25%) and severe pain (22%) being the most common; however, 58% were not able to even name a single symptom. Regarding risk factors, 59 items were reported, with smoking (26.8%) and lack of physical activity (23.4%) as the most cited, while 47.6% answered "I don't know." Regression analysis identified education ( $B = 0.835$ ,  $p = 0.002$ ) and having relatives with cancer ( $B = 2.554$ ,  $p < 0.001$ ) as significant predictors of awareness. Correlation analysis showed no significant relationship between age and awareness ( $r = -0.003$ ,  $p = 0.952$ ), though younger individuals (18–40 years) tended to have slightly higher awareness compared to older participants.

### **Conclusion:**

Overall, the study highlights the low level of awareness about cancer and its risk factors among the population in Kabul city. Education and access to reliable information sources significantly enhance awareness. Targeted community-based educational programs and awareness campaigns are urgently needed to improve cancer knowledge and promote preventive health behaviors.

**Keywords:** *Cancer, Awareness, Risk factors, Education, Kabul, Afghanistan*

## **Surgical Outcome of Coxa Vara at Tertiary Hospital**

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### **Introduction:**

Coxa Vara is a rare pediatric hip deformity, which may be congenital or acquired due to various causes. This study aims to evaluate the surgical outcomes of Pauwels and Borden line valgus osteotomies for Coxa Vara, fixed with either tension band wiring or plate fixation.

### **Methods:**

A retrospective review was conducted of 33 patients with 42 hips treated between 2018 and 2024 at FMIC. Pauwel osteotomy was performed for 38 (90.5 %) hips and Borden line osteotomy in 4(9.5 %) hips. Fixation was achieved using tension band wiring in 10 hips (23.8 %) and plate fixation in 32 hips (76.2 %). all patients were immobilized in a hip spica cast for 4-8 weeks post operatively. Clinical Evaluation included (gait, hip range of motion and leg-length discrepancy). Radiological evaluation included the Neck-shaft angle, Hilgenreiner-Epiphyseal angle at pre-operative, post-operative, and final follow up. The study population consisted of 15 Females (45.5%) and 18 males (54.5%). Laterality was left side in 10 cases (30,3%), right side in 15 cases (45.4 %) , and bilateral in 8 cases(24.3 %). The mean age at surgery was 7.5 years (range: 3-17 years). The mean follows up period was 4 years (range: 0.6-7 years).

### **Result:**

Congenital coxa Vara was observed in 24 patients (72.7%), acquired Coxa Vara in 4 patients (12.1%), and 5 patients (15.2%) had sequelae of Developmental Dysplasia of the Hip (DDH) surgery. The mean Neck-shaft angle improved significantly from 60 degrees preoperatively to 140 degrees at final follow up. The Hilgenreiner-Epiphyseal angle improved from 100 degrees to 35 degrees. Clinically, Gait improved from a marked lurch to only mild limping, and Limb-length discrepancy improved from 2cm to 0.6cm. 3 patients developed recurrence and required reoperation.

### **Discussions:**

Villagization osteotomy is an effective procedure for correcting mild to moderate coxa Vara deformities. Borderline osteotomy is preferable in sever deformities. plate and screw fixation, as well as tension band wiring, provide stable fixation and contribute to improved clinical and radiologic outcomes. Our findings are consistent with previous reports in the literature.

### **Conclusion:**

Coxa Vara is a rare pediatric condition, and its surgical management remain challenging. The main goal of treatment is to convert the shearing forces at the femoral neck into compressive forces, thereby improving hip stability, gait, and limb length discrepancy. Villagization osteotomy, using Pauwels or Borderline techniques, provide favorable outcomes.

**Key words:** Coxa Vara, Borden osteotomy, Pauwels Osteotomy.

## **Cytological Profile of Pap Smear among Afghan Women: A Study from a Tertiary Care Center in Kabul, Afghanistan**

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### **Background:**

Cervical cancer remains a significant cause of morbidity and mortality among women globally, particularly in low-resource settings. Pap Smear is a simple, effective, and widely used screening tool for early detection of premalignant and malignant cervical lesions. In Afghanistan, however, awareness and utilization of Pap smear screening are very limited, and women generally undergo the test only when symptomatic or upon physician recommendation rather than as a routine preventive measure.

### **Objective:**

To evaluate the cytological profile of Pap smear results among Afghan women attending a tertiary care center and emphasize the need for regular screening.

### **Methods:**

This retrospective cross-sectional study was conducted over seven months and included 202 Pap smear samples. Conventional smears were prepared using Ayre's spatula, fixed in alcohol spray, and stained by the Papanicolaou method. The smears were examined microscopically and classified into negative for intraepithelial lesion or malignancy (NILM), inflammatory, atrophic, infectious, and malignant categories.

### **Results:**

Out of 202 cases, 198 (98.01%) were negative for malignancy, and 5 (2.47%) were positive. Among the negative cases, 33 (16.67%) showed inflammatory changes, 5 (2.52%) had fungal infections, and 9 (4.55%) were atrophic smears. Among positive cases, 1 (20%) was ASC-US (Atypical Squamous Cells of Undetermined Significance), 3 (60%) were AGC (Atypical Glandular Cells), and 1 (20%) was SCC (Squamous Cell Carcinoma). Most women underwent Pap smear testing based on physician recommendation for symptoms such as vaginal discharge and pelvic pain, rather than routine screening.

### **Conclusion:**

Most Pap smears were negative for malignancy, but the presence of premalignant and malignant lesions underscores the importance of screening. Since women in Afghanistan usually undergo Pap smear only after developing symptoms, awareness programs and implementation of routine screening are essential to promote early detection and reduce the burden of cervical cancer.

# **Assessment of Knowledge, Attitude, and Practice of Hospitalized Patients Regarding prevention of heart diseases at Ali Abad Teaching Hospital, Kabul, Afghanistan**

*Mohammad Nasim Hatami- Faculty of Public Health, Kabul University of Medical Science, Afghanistan*

## **Introduction:**

Cardiovascular diseases (CVDs) are the leading cause of mortality worldwide, posing a growing challenge for low- and middle-income countries, including Afghanistan. Effective prevention depends on adequate knowledge, positive attitudes, and healthy practices among patients. This study was carried out to assess the knowledge, attitude, and practice (KAP) of hospitalized patients regarding the prevention of heart diseases at Ali Abad Teaching Hospital.

## **Methodology:**

A descriptive cross-sectional study was conducted from May to September 2024 among 257 inpatients selected via convenience sampling. Data were collected using structured, literature-based questionnaire covering demographic and KAP variables. Data analysis was performed in SPSS version 26. Result: Participants' ages ranged from 20-80 years (mean: 46.98 years), which 61.5% were males and 38.5% were females. Good Knowledge was found in 45.1% of responds, moderate knowledge in 50.2%, and poor knowledge in 4.7%. Good attitudes were reported by 53.7%, while 3.1% had very poor attitudes. In terms of practices, 48.6% demonstrated poor practices, 46.3% moderate, and only 5.1% good practices. A family history of heart disease was reported by 30.4% of participants. Male participants had higher KAP scores than females.

## **Conclusion:**

While patients exhibited moderate knowledge and generally positive attitudes, preventive practices were inadequate. Bridging the gap between knowledge and practices through structured educational interventions, media engagement, and systematic health promotion programs is essential to reduce the CVD burden in Afghanistan.

## **Prostate Cancer**

*Tawhid Amin*

## **Background:**

Prostate cancer is one of the most common malignancies affecting men worldwide, with incidence increasing with age. In developing countries such as Afghanistan, the absence of systematic screening, limited public awareness, and lack of early diagnostic services contribute to a high rate of late-stage diagnosis. Furthermore, the scarcity of epidemiological data limits evidence-based health planning. Objective: To determine the prevalence, demographic characteristics, diagnostic stage, and histopathological type of prostate cancer among male patients at the National Cancer Diagnosis and Treatment Hospital (Ibn Sina) in the year 1403.

## **Method:**

This study was conducted as a descriptive cross-sectional study at (Ibn Sina) Hospital among male cancer patients whose cancer were resgistered in 1403. The census sampling method was applied, including all registered prostate cancer cases among male patients during the study year. Data were collected from medical

records and analyzed using SPSS version 26. Descriptive statistics and the Chi-square test were used to assess associations between variables.

### **Result:**

Out of 1,122 male cancer cases, 35 (3.12%) were diagnosed with prostate cancer. The mean age of patients was 63.74 years, with the majority aged 65–74. Adenocarcinoma was the predominant histological type (94.3%), and 80% of patients were diagnosed at stage III or IV. A significant relationship was found between age and stage of diagnosis ( $P=0.002$ ). Moreover, 60% of patients were economically disadvantaged, and 88.6% were unemployed.

### **Conclusion:**

The findings reveal that prostate cancer in Afghanistan is frequently diagnosed at an advanced stage. Lack of screening programs, poor awareness, and economic hardship are key contributing factors. Implementation of nationwide screening, public education initiatives, and enhancement of diagnostic services is urgently needed to improve prostate cancer outcomes in the country. Keywords: Prostate cancer, Prevalence, Diagnostic stage, Adenocarcinoma

## **Successful management of a brain abscess in an uncorrected congenital heart defect patient: A case report and Review of the Literature**

*Roohullah Hares, Mohammad Tareq Rahimi, Medical Director, FMIC*

### **Introduction:**

Brain abscess is a rare but potentially fatal complication of CHD which is associated with a right-to-left shunt causing tissue hypoxia and cyanosis. Brain abscess is common in developing countries. CCHD is often misdiagnosed as respiratory conditions at primary and secondary healthcare centers, leading to delays in appropriate treatment.

### **Case presentation:**

A 3.5-year-old female presented to the emergency department with right-sided hemiparesis for ten days, also she has been suffering from fever, headache and vomiting since two-month. On physical examination, she was irritable, cyanotic, and has mild dyspnea. GCS was 13/15, and motor strength on the right side was 2/5. Laboratory investigations revealed elevated hemoglobin, hematocrit and C-reactive protein levels. Echocardiography demonstrated complex CHD (TGA+VSD+PAH). Brain CT scan identified a large abscess in the left fronto-parietal lobe. The patient underwent an emergent awake craniotomy with sedation. Approximately 90 mL of purulent fluid was drained and sent for culture. The patient recovered well and showed immediate improvement and discharged on 15th day of postoperative in a stable condition.

### **Clinical discussion:**

Management strategies for brain abscesses include both surgical and non-surgical treatment. Awake craniotomy has been identified as a safe approach with favorable outcomes for patients with larger than 2cm brain abscesses and shift the midline.

### **Conclusion:**

Brain abscess following uncorrected CCHD requires a meticulous and multidisciplinary approach for optimal patient care. Strengthening the referral system at primary and secondary healthcare levels will significantly reduce the morbidity and mortality rates of undiagnosed CCHD patients.

## **Healthcare Waste management practices: the cases of Ali Abad and Maiwand Teaching Hospitals, Kabul, Afghanistan. A cross-sectional study**

*Hussain Faramarz*

### **Background:**

Healthcare waste (HCW) poses significant health and environmental risks, particularly in low-resource settings. Effective HCW management is critical for reducing infection risks, occupational injuries, and environmental contamination. This study aimed to assess the current HCW management practices and associated challenges in Ali Abad and Maiwand Teaching Hospitals in Kabul, Afghanistan.

### **Methods:**

A descriptive cross-sectional study was conducted among 250 healthcare workers. Data were collected using a structured questionnaire and a standardized observational checklist assessing demographic characteristics, training, availability, and proper use of waste segregation equipment, storage, internal and external transportation, treatment, PPE usage, and sharps injuries. Descriptive statistics (frequencies, percentages) were analyzed using SPSS version 26.

### **Results:**

Among respondents, 67.8% were male, 51.3% held a bachelor's degree, and 63% had 6 months to 5 years of work experience. Only 43% had received formal training on HCW management. Waste segregation was reported by 61% respondents, but proper use of green, yellow, and red bins was observed in 58%, 52%, and 52% of cases, respectively. Availability of bins was uneven (100% green, 31% yellow, 32% red). Temporary storage facilities were inadequate in Ali Abad and absent in Maiwand Hospital. Neither hospital employed treatment methods prior to disposal. PPE was consistently used by only 63% of service workers, with gloves being the most common (96.3%). Sharps injuries were reported by 46.5% of participants, with 15% sustaining frequent injuries.

### **Conclusion:**

HCW management in both hospitals falls below WHO standards, with major gaps in training, segregation practices, and availability of equipment. Strengthening staff training, ensuring adequate color-coded bins, improving storage, implementing safe transportation, and enforcing PPE use are essential to mitigate occupational and environmental risks.

### **Keywords:**

Medical waste, Hospital waste, Waste management, Hazardous waste, Sharps injuries, Afghanistan

# **Incidence and Associated Risk Factors of Colorectal Cancer, Diagnosed at Tertiary level, in Afghanistan:**

*Ahmadullah Hakimi, Ahmed Maseh Haidary, Haider Ali Malakzai*

## **Background:**

Colorectal Cancer (CRC) is one of the leading causes of cancer-related mortality worldwide. Its incidence has been increasing in developing countries, including Afghanistan, where epidemiological data on CRC remain scarce. CRC is a multifactorial disease, influenced by both modifiable and non-modifiable risk factors. Lifestyle choices such as diet, obesity, physical inactivity, and smoking are key contributors, alongside genetic predisposition. Despite the growing burden of CRC, Afghanistan faces significant challenges in cancer prevention, early detection, and treatment, primarily due to limited healthcare infrastructure and public awareness. This hospital-based case-control study aims to investigate the incidence and associated risk factors of CRC diagnosed in a tertiary care center in Kabul, providing critical insights into disease patterns, risk factors, and potential preventive strategies.

## **Methodology:**

This study employed a case-control design at the French Medical Institute for Mothers and Children (FMIC) in Kabul, Afghanistan, involving 200 participants (100 CRC cases and 100 matched controls). Cases were confirmed through histopathological examination, while controls were selected from outpatient departments, ensuring comparability by age and gender. Sociodemographic data, dietary habits, lifestyle factors, and medical history were collected through structured questionnaires and medical record reviews. The histopathological diagnoses showed that adenocarcinoma was the predominant tumor type (78%), with 27% of cases located in the sigmoid colon. Advanced statistical analyses, including logistic regression models, were applied to identify independent risk factors associated with CRC.

## **Results:**

The study found significant associations between dietary patterns and CRC risk. Frequent red meat consumption (>2 times/week) was strongly correlated with increased CRC risk (OR = 11.53,  $p < 0.001$ ), while vegetable intake had a protective effect (OR = 0.12,  $p < 0.001$ ). Spicy food consumption was associated with CRC (OR = 1.71,  $p = 0.001$ ), supporting concerns about gastrointestinal irritation contributing to cancer development. Obesity was another key risk factor, with overweight individuals showing an OR of 2.35 ( $p < 0.01$ ), and obese individuals an OR of 2.23 ( $p < 0.05$ ). Additionally, rural residency was linked to higher CRC incidence (OR = 1.91,  $p < 0.01$ ), potentially due to disparities in healthcare access and dietary habits. Alarming, screening rates were critically low, with 0% of cases and only 2% of controls reporting regular screening, highlighting a significant gap in preventive healthcare.

## **Conclusion:**

This study provides valuable epidemiological data on CRC in Afghanistan, emphasizing the urgent need for comprehensive cancer prevention and screening programs. The findings underscore the importance of dietary modifications, lifestyle changes, and improved healthcare infrastructure to mitigate risk factors. Public health initiatives should focus on reducing red meat consumption, promoting vegetable intake, encouraging physical activity, and implementing routine CRC screening programs to improve early detection and patient

outcomes. Additionally, enhancing cancer awareness and education could play a crucial role in modifying risk behaviors and increasing screening participation.

### **Implications for Public Health:**

Given the study's findings, there is a pressing need for targeted interventions in Afghanistan. Dietary guidelines encouraging reduced red meat consumption and increased vegetable intake could help lower CRC risk. Additionally, physical activity promotion and obesity prevention strategies should be prioritized to address lifestyle-related factors. Expanding access to screening services, particularly in rural areas, would enable earlier diagnosis and improve treatment outcomes. Future research should explore genetic and environmental influences on CRC in Afghanistan, facilitating the development of tailored prevention strategies that align with local population needs.

**Keywords:** Colorectal cancer, incidence, risk factors, histopathology, dietary patterns, screening, public health, Afghanistan.

## **From Stress to Strength: Assessing Stress, Coping Strategies and Impact of Psychosocial Intervention among Parents of Children with Autism**

*Arnika Tahsin Orpa, MBBS (5th year), MAG Osmani Medical College Sylhet.*

### **Background:**

Autism spectrum disorders (ASD) are complex conditions that involve impairments in social interaction, communication and behavioural functioning such as repetitive and stereotyped behaviour. Children with ASD require extensive social-emotional and educational care which can be extremely difficult and stressful for their parents. Previous studies explored effect of children autism on parental stress and anxiety level, however, limited data exists about parental coping and especially about the effectiveness of interventions in such cases.

### **Objective:**

Objective of this study is to (1) Assess stress and coping strategies among parents of children with ASD. (2) Evaluate the impact of a structured psychosocial intervention on parental stress coping.

### **Method:**

This study was conducted in the Shishu Bikash Kendro of MAG Osmani Medical College Sylhet and Sher-E-Bangla Medical College Barisal. A total of 60 parents of children diagnosed with ASD (confirmed via Autism diagnostic observation schedule) were recruited with consent. Participants completed a sociodemographic questionnaire, Bangla version of Brief Cope Inventory and Perceived Stress Scale (PSS 10). Thereafter, participants were randomly allocated in intervention group (n 30) who received a 4 week long psychosocial therapy and a control group (n 30) with regular care. In post intervention phase, both groups were reassessed using the same tools. For data analysis, SPSS version 24 was used.

### **Result:**

Higher level of stress was seen in parents of children with ASD comparing to normative data. (2) Coping strategies significantly differed by sociodemographic variables. (3) Intervening group reported reduced stress level and more adaptive coping.

**Conclusion:**

This study highlights the psychological burden faced by the parents of autistic children and reveals the effectiveness of targeted interventions in reducing parental stress. These findings are potential suggestions for development of caregiver focused mental health programmes in autism care services.

**Stroke Care Gaps in Afghanistan: Opportunities and Barriers to Thrombolytic Therapy in Kabul**

*Mahmoodullah Azimi<sup>1</sup>, Aemal Aziz Jabarkhil<sup>2</sup>, Aziz Rahman Rasib<sup>2</sup>, Mohamad Asif Atiq<sup>1</sup>, Mohammad Barin Bahain<sup>1</sup>, Aziz-Zur-Rahman Niazi<sup>3,4</sup>*

**Background:**

Stroke is a major global health concern, ranking as the second leading cause of mortality and disability worldwide. Timely administration of thrombolytic therapy is the gold standard for managing acute ischemic stroke. However, this treatment is currently unavailable in Afghanistan, leaving a critical gap in stroke care.

**Objectives:** This study aimed to assess the proportion of ischemic stroke patients eligible for thrombolytic therapy in Kabul and to identify barriers to timely hospital presentation.

**Methodology:**

A cross-sectional study was conducted between March and August 2024 in Ali-Abad Teaching Hospital and Sheikh Zayed Hospital in Kabul. Data were collected from 292 stroke patients, focusing on the time of hospital arrival following symptom onset and reasons for delays.

**Results:** Of the ischemic stroke patients, 28.0% arrived within the 4.5-hour window necessary for thrombolytic therapy. Key barriers to timely hospital presentation included long travel distances and inadequate awareness of stroke symptoms.

**Conclusion:**

A significant proportion of ischemic stroke patients in Kabul arrived within the therapeutic time window, indicating strong potential for introducing thrombolytic therapy. Addressing barriers to timely hospital access is critical for improving stroke care in Afghanistan. We recommend establishing dedicated stroke units equipped with thrombolytic treatment facilities in major hospitals. Public awareness campaigns should focus on educating the population about stroke symptoms and the importance of early hospital arrival.

**Keywords:** Afghanistan, Acute Ischemic Stroke, Stroke Care Gap, Thrombolytic Eligibility

## **Mental Health Service Utilization in Kabul: Patterns in Severe, Common, and Substance use Disorders (Jan–Jun 2025)**

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### **Background:**

Afghanistan faces one of the world's highest burdens of mental illness, with over 60% of the population exposed to traumatic events. Women are at significantly higher risk for suicide attempts and distress. Understanding who seeks care and for which conditions is essential for aligning mental health services with population needs. In Kabul, routine health information can offer actionable signals to guide service planning and coordination.

### **Objective:**

To describe patterns of service utilization for severe mental disorders and substance use in Kabul's outpatient mental health services during the first half of 2025, with attention to age and gender distributions.

### **Methodology:**

A secondary cross-sectional analysis was conducted of outpatient data reported by Kabul Mental Health Hospital (Jan–Jun 2025). Data came from HMIS-HMIR-MH (monthly summaries of severe disorders), HMIS-MIAR-MH (new and follow-up cases for severe, common, and suicidal cases), HMIS-MIAR-DIR (drug use), and HMIS-MIAR-OPD (general outpatient mental disorders). Cases were grouped by diagnostic category and disaggregated by age (<18, ≥18) and gender. Descriptive statistics were used to assess patterns in service utilization.

### **Results:**

From January to June 2025, 9,961 new common mental disorder cases were recorded, predominantly among females (57.6%). Severe mental disorders totaled 2,548 cases, with males accounting for 63.2%. Attempted suicides numbered 80, slightly higher among females (52.5%). New substance use cases (185) were reported exclusively in adult males. Adolescent cases were low across all categories. These patterns highlight gender disparities likely influenced by cultural stigma, impacting service utilization in Kabul's outpatient mental health settings.

### **Conclusion:**

While international evidence consistently reports higher diagnosis rates of many mental disorders among women, and our dataset shows a strikingly higher female burden in common mental disorders, the comparatively low female counts in severe mental disorders and substance use likely reflect stigma and cultural barriers, not lower need. These barriers include constraints on help-seeking and, critically, on inpatient admission for severe disorders. Policy and service responses should combine high-severity care with gender-responsive access, confidential referrals from maternal/primary care and safe inpatient pathways for women and girls. This aligns service use with true need and reduces imbalances.

## **Session 2**

### **Reproductive, Maternal, Newborn and Child Health**

## **A Public Health Challenge: Low Breast Cancer Awareness Among Women in the Capital City of Afghanistan**

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### **Background:**

Breast cancer (BC) is a leading cause of cancer-related deaths among women in Afghanistan, with an age-standardized mortality rate of 16.9 per 100,000, significantly higher than the global average of 11.0. It accounts for 27.7% of newly registered cancer cases, highlighting the urgent need for improved awareness, early detection, and access to treatment. This study assessed BC awareness among women in Kabul to identify knowledge gaps and inform interventions.

### **Methods:**

A hospital-based cross-sectional study was conducted among 485 women aged 30 and above at the Ariana Medical Complex in Kabul. Data were collected using the validated Breast Cancer Awareness Measure (Breast CAM), adapted into Dari, through face-to-face interviews. Descriptive statistics and linear regression analyses were used to evaluate awareness levels and identify predictors of knowledge.

### **Results:**

The study revealed alarmingly low awareness levels, with 55.46% of participants unable to name any BC warning signs and 56.7% unable to identify any risk factors in open-ended questions. Only 12.8% correctly identified age as a significant risk factor, and 52.4% of women rarely or never performed breast self-examinations. Socioeconomic factors, such as higher income, were associated with lower awareness, while a family history of cancer positively influenced knowledge. Key risk factors, including obesity, physical inactivity, and genetic predisposition, were poorly recognized. Despite high confidence in detecting breast changes, only 17.5% of participants reported seeking medical advice after noticing changes.

### **Conclusion:**

The findings highlight a critical gap in BC awareness among Afghan women, emphasizing the need for targeted educational campaigns, improved access to screening, and strengthened healthcare infrastructure. Keywords: Breast cancer, awareness, women, warning signs, risk factors, women's health, public health, Kabul, Afghanistan

## **Age-related clinical manifestation of Acute Bacterial Meningitis in children aged 3 months till 14 years in hospitalized children in a tertiary care hospital of Afghanistan.**

*Dr. Palwasha Wardak, Pediatric Specialist, FMIC Afghanistan*

### **Background:**

Acute bacterial meningitis (ABM) is a significant cause of morbidity and mortality in children, particularly in low- and middle-income countries. Despite advancements in medical care, the disease continues to pose a major challenge in pediatric populations. This study aimed to assess the age-related clinical manifestations and outcomes of ABM in children aged 3 months to 14 SWyears at the French Medical Institute for Mothers and Children (FMIC) in Kabul, Afghanistan.

### **Methodology:**

This retrospective cross-sectional study was conducted at the French Medical Institute for Mothers and Children (FMIC) in Kabul, Afghanistan. It involved 98 pediatric patients, aged 3 months to 14 years, who were admitted between January 1, 2022, and December 31, 2024, and diagnosed with acute bacterial meningitis (ABM). The diagnosis of ABM was confirmed through cerebrospinal fluid (CSF) analysis obtained via lumbar puncture (LP), with typical markers including elevated white blood cell count, low glucose, and high protein levels.

Data was collected using variables such as age, gender, presenting complaints, clinical signs and symptoms, imaging findings, and final outcomes. SPSS software was used for data analysis, with descriptive statistics applied to identify patterns in clinical presentation and patient outcomes.

### **Results:**

The study included 98 pediatric patients diagnosed with acute bacterial meningitis (ABM) at the French Medical Institute for Mothers and Children (FMIC) in Kabul, Afghanistan. Among these patients, 73 (74.5%) were male and 25 (25.5%) were female, reflecting a male predominance in the cohort.

In terms of age distribution, the patients were categorized into three groups: 24.5% were under 1 year of age, 20.4% were between 1 and 5 years old, and the remaining 55.1% were older than 5 years. This age distribution highlights that most of the cases occurred in children older than 5 years.

When examining the clinical presentation, fever was the most reported symptom, observed in 95.9% of the patients. Vomiting was the second most frequent symptom, seen in 72.4% of the patients, followed by irritability in 30.6% and seizures in 26.5%. Notably, seizures were more common in the younger age group, with 70.8% of infants (under 1 year) presenting with this symptom. In contrast, older children, particularly those over 5 years of age, more commonly reported headache (96.3%), neck stiffness (66.7%), and photophobia (63%).

Other important findings included bulging fontanelles, which were present in 20.8% of infants, and focal neurological deficits, which were seen in 5.6% of the same age group. As for the older children, those above 5 years old showed a higher occurrence of altered mental status (20.4%), irregular breathing (7.4%), and dilated pupils (5.6%). These age-specific patterns suggest that younger children tend to present with more acute neurological signs, such as seizures and bulging fontanelles, while older children more commonly display symptoms such as headache, neck stiffness, and photophobia. In terms of hospital stay, 59.2% of the patient's required hospitalization for more than a week, indicating the severity and complexity of the

condition in this cohort. Despite the advanced healthcare provided at FMIC, a significant 33.7% of patients left against medical advice (LAMA). No fatalities were reported during the study period.

Microbiological cultures were performed for all patients suspected of having ABM, but surprisingly, all culture results returned negative. This raises concerns about the accuracy and reliability of the microbiological testing, as no causative bacterial pathogens were identified, which may be due to issues related to sample handling or laboratory procedures.

### **Conclusion:**

This study concluded that patients under 1 year of age often present with non-specific symptoms of acute bacterial meningitis (ABM), making early diagnosis challenging in this age group. The findings highlight the critical importance of prompt diagnosis and intervention, particularly in younger children.

**Keywords:** acute bacterial meningitis, pediatrics population, Afghanistan.

## **Factors Associated with Respiratory Distress Syndrome in Preterm Neonates Admitted to a Tertiary Hospital in Kabul City: A Retrospective Cross-Sectional Study.**

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### **Background:**

Prematurity is one of the primary causes of infant death in Afghanistan, and it complicates a variety of critical issues, such as respiratory distress syndrome (RDS). Although RDS has been associated with serious consequences, there is a lack of scientific information on the associated factors of this problem in Afghanistan; hence, this study was undertaken to fill that gap. The purpose of this study was to find the occurrence rate and associated factors of RDS in premature neonates.

### **Methods:**

This retrospective cross-sectional study was conducted at the Neonatal Intensive Care Unit of the French Medical Institute for Mothers and Children Hospital in Kabul City, Afghanistan during 2020-2021. Statistical analysis was performed by SPSS 26 and specific statistical methods.

**Results:** A total of 78 preterm newborns were enrolled in this study, and respiratory distress syndrome developed in 51.3 % of them. Based on gestational age, the occurrence rates of RDS within groups of extremely, early, moderate, and late preterm neonates were 100%, 55.6%, 44%, and 35.7 respectively. The occurrence of RDS was found to be 100% in extremely low birth weight, 56.2% in very low birth weight, and 58.8% in low-birth-weight neonates. The gestational ages of these infants had a positive correlation with birth weights ( $r=.648$ ,  $p=0.01$ ,  $n=78$ ). The preterm neonates in the RDS group versus the non-RDS group had a mean birth weight of ( $1610\pm 314.4g$  vs  $1981\pm 520.3g$ ,  $P=0.005$ ), a mean gestational age of ( $31.65\pm 2.2w$  vs  $33.18\pm 2.10w$ ,  $P=0.003$ ), and a mean hemoglobin level of ( $13.85\pm 3.28g$  vs  $16.09\pm 3.26g$ ,  $P=0.003$ ). There was a significant association between RDS and neonatal anemia (AOR=5.9,  $P=0.008$ ), neonatal sepsis (AOR=4.2,  $P=0.01$ ), vaginal delivery (AOR=8.7,  $P=0.01$ ), delivery at low-resourced settings (AOR=2.7,  $P=0.01$ ), PROM (AOR=4,  $P=0.02$ ), and antepartum hemorrhage (6.9,  $P=0.01$ ). The mortality rate in preterm neonates

was found to be 26.8% that was significantly associated with very and extremely low birth weights (AOR=8.2, P=0.03), early and extremely preterm births (AOR=6.3, P=0.03), female gender (AOR=3.8, P=0.04), antepartum hemorrhage (AOR=4.6, P=0.01) and PROM (AOR=5.7, P=0.01).

## **Chromosomal karyotyping for detection of random and as well as familial chromosomal abnormalities in Afghanistan**

*Inamullah Mohib, Department of Pathology, FMIC*

### **Introduction**

Most of the genetic disorders, congenital malformations, and reproductive complications are due to chromosomal abnormalities. Conventional karyotyping is an important technique for the analysis of chromosomes. It plays greater role in the scrutiny of chromosomal abnormalities either acquired or inherited in nature. Karyogram shows the numerical as well structural alterations. This study was designed to identify common chromosomal anomalies that may contribute to various hereditary conditions.

### **Material and methods**

A total of 250 samples, having varied age groups, were analyzed between January 2024 and March 2025. Blood samples were collected according to standard protocol and cultured in RPMI media with PHA. Slides were made and GTG staining was performed. Analyzed under microscope and at least 5 metaphases captured. Each karyogram was analyzed according to International System for Human Cytogenomic Nomenclature (ISCN)

### **Results**

Out of 250 samples 32 were abnormal in which 53.12% (17 cases) were Down syndrome, 15.62% (5 cases) were turner syndrome 3.12% (1 case) were klinefelter syndrome and 3.12% were Edward syndrome and there was a special case in which the patient had two cell lines represented by 25 cells showed an isodicentric chromosome Y and second cell line represented by 05 cells showed 45 X.

### **Conclusion**

This study showed that the chromosomal karyotyping is an important diagnostic tool for the early detection of chromosomal abnormalities. Out of 250 12% showed chromosomal abnormalities with Down syndrome being highly common followed by Turner, Edward and Klinefelter syndrome. Clinician awareness should be developed for the early diagnose of genetic disorders.

## **Risk Factors Associated with Hypertensive Disorders in Pregnancy: A Retrospective Case-Control Study at FMIC, Kabul 2023 – 2024**

*Dr. Karima Sadat, MD (Resident, Department of Obstetrics and Gynecology, French Medical Institute for Children (FMIC), Kabul, Afghanistan); Dr. Huma Ahmad Alizai (Consultant Obstetrician & Gynecologist, PGME Faculty, and Director, FMIC, Kabul, Afghanistan); Dr. Sayed Murtaza Sadat Hofiani (MD, MPH, PGME Manager, FMIC, Kabul, Afghanistan)*

### **Background:**

Hypertensive disorders of pregnancy (HDP), including gestational hypertension, preeclampsia, and eclampsia, are among the leading causes of maternal and neonatal morbidity and mortality globally. Identifying associated risk factors is essential to guide prevention, early detection, and effective management strategies.

### **Objective:**

This study aimed to identify the risk factors associated with hypertensive disorders of pregnancy among women who delivered at the French Medical Institute for Mothers and Children (FMIC) between June 2023 and June 2024.

### **Methods:**

A facility-based retrospective unmatched case-control study was conducted. A total of 914 medical records were initially retrieved from the FMIC HMIS database. After applying the eligibility criteria, 185 records were missing, 11 were incomplete (6 hypertensive and 5 normotensive), and 11 belonged to women with chronic hypertension, resulting in 707 eligible records. Among these, 72 women diagnosed with HDP were identified as cases. An equal number of 72 normotensive women were selected as controls from 635 eligible records using simple random sampling via Microsoft Excel.

### **Result:**

A total of 144 participants were included in this case-control study, comprising 72 women diagnosed with hypertensive disorders of pregnancy (cases) and 72 normotensive pregnant women (controls). Bivariate analysis identified several factors significantly associated with hypertensive disorders in pregnancy. Women with a BMI in the overweight or obese category had a significantly higher likelihood of HDP (100% of cases vs. 73.6% of controls;  $p < 0.001$ ). Lack of antenatal care was also strongly associated with HDP (45.8% of cases vs. 6.9% of controls;  $p < 0.001$ ). Induced or other non-spontaneous labor was more common among cases (52.8%) than controls (29.2%;  $p = 0.004$ ). Other significant factors included preterm delivery, low birth weight, intrauterine growth restriction (IUGR), history of abortion, NICU admission, and preexisting hypertension ( $p < 0.05$  for all). Multivariable logistic regression identified several independent predictors of HDP. Women who did not receive antenatal care had significantly higher odds of developing HDP (AOR = 8.27, 95% CI: 2.60–26.29,  $p < 0.001$ ). Preterm gestational age was also associated with increased odds of HDP (AOR = 3.13, 95% CI: 1.18–8.34,  $p = 0.022$ ). In contrast, spontaneous labor onset was significantly less common among HDP cases, indicating a strong association between induced labor and HDP (AOR = 0.27, 95% CI: 0.11–0.67,  $p = 0.005$ ). Although a history of abortion appeared statistically significant in the model ( $p = 0.021$ ), it is not considered a reliable predictor of HDP due to clinical implausibility and potential confounding. BMI and gravidity were not significantly associated with HDP in the final model ( $p > 0.05$ ), but this association may reflect confounding factors or data limitations and was not considered clinically predictive.

### **Conclusion:**

This study identified lack of antenatal care, preterm delivery, and non-spontaneous labor onset as significant independent risk factors for hypertensive disorders in pregnancy. These findings underscore the importance

of early and consistent prenatal care in reducing the risk of HDP. Targeted interventions to improve ANC attendance and close monitoring of high-risk pregnancies may help in early identification and management of hypertensive complications, ultimately improving maternal and neonatal outcomes.

**Keywords:** Hypertensive Disorders of Pregnancy, Risk Factors, Antenatal Care, Preterm Delivery, Labor Onset, Abortion History, Case-Control Study, FMIC, Afghanistan

## **A Descriptive Study of Placental Abruption Cases at Malalai Hospital: Year 2023**

*Dr Hafiza Omarkhil*

### **Introduction:**

Placental abruption is a serious obstetric emergency characterized by the premature separation of the placenta from the uterine wall, typically after 20 weeks of gestation. It significantly contributes to maternal and fetal morbidity and mortality.

### **Objective:**

This study aimed to evaluate the prevalence, demographic characteristics, and clinical outcomes of patients diagnosed with placental abruption at Malalai Maternity Hospital during the year 1402 (March 2023–February 2024).

### **Methods:**

A retrospective descriptive case series was conducted using hospital records. A total of 96 cases of placental abruption were identified among 39,478 obstetric admissions. Data were analyzed using Microsoft Excel.

### **Results:**

The incidence of placental abruption was 0.24%. Most affected women were aged 26–35 years (46.87%) and had a parity greater than five (72.91%). Over half of the cases occurred at term ( $\geq 37$  weeks), and 54.16% required cesarean section. Hysterectomy was necessary in 8.33% of cases.

**Conclusion:** Although the prevalence of placental abruption was relatively low, its maternal and fetal complications were severe. Enhanced maternal care, early detection of risk factors, and timely obstetric interventions are helpful to reduce adverse outcomes.

**Keywords:** Placental abruption, obstetrics, Malalai Hospital, prevalence, maternal outcomes, Afghanistan

# **Prevalence of Premenstrual Syndrome (PMS) Among Female Biomedical Students in Kabul, Afghanistan: A Cross-Sectional Study**

*Mohammad Farid Tawakoli, Abdullah Abed, Rohullah Sakhi Public Health Faculty, Kabul University of Medical Sciences, Kabul, Afghanistan Abstract*

## **Background:**

Premenstrual Syndrome (PMS) is a significant public health concern affecting a substantial proportion of women worldwide, with a global prevalence of approximately 47.8%. In Afghanistan, the PMS is prevalent, and the magnitude is unknown. Due to a lack of studies, this is the first study that sheds light on prevalence of PMS. Objective: This study investigates the prevalence and symptoms of PMS among female students in Kabul, Afghanistan.

## **Materials and Methods:**

This descriptive cross-sectional study was conducted between May and September 2024 on a sample of 285 students. A systematic and stratified random sampling method was employed. Data were collected using a standardized questionnaire and analyzed using SPSS version 26. The chi-square test was performed to assess the association between PMS prevalence and variables such as age and menstrual cycle status.

## **Results:**

The study achieved a response rate of 84.91%. The participants' age distribution was 39.7% between 18–20 years, 57% between 21–25 years, and 3.3% above 25 years. Most participants were single (87.6%), and 76.9% reported having regular menstrual cycles. The prevalence of PMS was 72.3% based on ICD-10 criteria and 21.1% based on ACOG criteria. The chi-square test indicated no statistically significant association between age groups and PMS prevalence ( $p$ -value= 0.151), but significant relationship was observed between menstrual cycle regularity and PMS prevalence ( $p$ -value= 0.018). The most frequently reported symptoms were muscle, joint, and back pain (86.8%), fatigue (84.3%), and reduced interest in activities (77.3%).

## **Conclusion:**

The high prevalence of PMS and its association with irregular menstrual cycles highlight the need for targeted awareness campaigns, culturally sensitive interventions, and improved healthcare access to mitigate its effects. Keywords: menstruation, premenstrual syndrome, premenstrual disorder, prevalence

## **Prevalence and Clinical Profile of Polycystic Ovary Syndrome among Reproductive-Aged Women at Shefajo Specialized Hospital during 2022-2024: A Cross-Sectional Study**

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### **Introduction:**

Polycystic Ovarian Syndrome (PCOS) is one of the most common reproductive endocrine disorders, with a wide spectrum of clinical manifestations, affecting approximately 6–8% of women of reproductive age. PCOS in adolescents is an emerging health concern that requires careful assessment, timely intervention, and appropriate management to prevent both short- and long-term complications.

### **Methods:**

A cross-sectional study was conducted at Shefajo Specialized Hospital from 2022 to 2024 to evaluate the prevalence and clinical characteristics of PCOS among reproductive-aged women (15–49 years). The study aimed to facilitate early detection and improve comprehensive management strategies to reduce morbidity associated with PCOS.

### **Results:**

A total of 3,314 women were evaluated in the outpatient department for PCOS. The mean age was 24 years, and the mean BMI was 26.7. Of the diagnosed cases, 71.8% were non-obese, 7.5% were overweight, and 20.7% were obese. Menstrual irregularities and acne were reported in 90% of patients, while hirsutism was observed in 60%. All patients underwent ultrasonography, but only 20% had laboratory exams; 80% of cases met the Rotterdam criteria for confirmed true PCOS. Among the patients, 70% were married, of whom 50% experienced infertility attributed to PCOS. Follow-up was achieved in 80% of cases, with 90% of unmarried patients showing symptomatic improvement, while 60% of married patients achieved pregnancy; however, 25% of these pregnancies resulted in miscarriage.

### **Conclusion:**

This study underscores the growing burden of PCOS among reproductive-aged women, highlighting it as a significant public health concern. Menstrual irregularities and primary infertility were the most frequent presenting complaints. Strengthening community awareness, integrating PCOS screening into primary health care, and ensuring timely referrals to specialized obstetrics and gynecology centers are crucial for early diagnosis, effective management, and prevention of associated complications.

# **Provincial Disparities in Maternal and Child Health, Service Access, and Multidimensional Poverty in Afghanistan: A Comparative Analysis of Multi Indicator Cluster Survey 2022/23 Data**

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## **Background:**

Health equity is a core principle of global health and essential for achieving Universal Health Coverage (UHC). In Afghanistan, decades of conflict, poverty, and weak governance have resulted in fragmented health services and persistent disparities in maternal and child health outcomes across provinces. Objective: This study assessed provincial disparities in maternal and child health, healthcare access, and multidimensional poverty across Afghanistan, identifying the most deprived regions to inform targeted, equity-based interventions.

## **Methods:**

Secondary data analysis was conducted using three sources: Afghanistan Multiple Indicator Cluster Survey (MICS) 2022–2023, the 2017 MoPH/NSIA geographic access report, and the Afghanistan Multidimensional Poverty Index (MPI) by NSIA/OPHI. Nine indicators were analyzed: stunting, basic immunization, antenatal care (ANC4), postnatal care (PNC), skilled birth attendance (SBA), under-five mortality, access to improved drinking water, population within 10 km of health facilities, and MPI score. Provinces were scored 1 (worst) to 4 (best), and composite averages calculated.

## **Results:**

Nuristan was the most deprived province (composite score 1.1), with extremely low immunization (5.1%), SBA (9.5%), ANC4 (6.7%), PNC (5.0%), access to safe water (16.3%), and the highest under-five mortality (120/1,000). Other critically deprived provinces included Zabul, Helmand, Urozgan, Badghis, and Paktika (scores 1.2–1.7). In contrast, Kabul (3.8), Panjshir (3.6), Bamyan (3.4), Logar (3.3), and Balkh (3.3) performed relatively well. A corridor of deprivation spans the northeast to southern and western provinces, whereas central and northern regions show better outcomes.

## **Conclusion:**

Afghanistan exhibits profound provincial inequities in maternal and child health, service access, and poverty. Targeted investments strengthened community-based health delivery, female health workforce recruitment, and integrated poverty reduction strategies are urgently needed to ensure marginalized populations are not left behind.

## **Postpartum hemorrhage and its associated factors: A matched case-control study**

*Fahima Naziri, Zainab Ezadi, Frishta Ayar Behrouz, Atia Sharif Nadi, Hossay Habibzahid, Sahar Ghafoori, Said Olfat Hashemi, Rahimullah Rahimi*

### **Introduction:**

The world health organization defines postpartum hemorrhage (PPH) as a loss of over 500 milliliters of blood after a vaginal delivery or more than 1000 milliliters after a cesarean section. PPH is a major cause of maternal mortality and morbidity worldwide, responsible for more than 25% of annual deaths, WHO statistics indicate that it accounts for 60% of maternal deaths in developing countries, leading to over 100,000 maternal fatalities each year and affecting millions of women. Despite its importance there is inadequacy of literature regarding the extent of PPH and its contributing factors in Afghanistan including the study setting.

### **Methods:**

This is a retrospective matched case-control study conducted at Cure Hospital from Jan-Jun 2025. Cases were women who experienced PPH (n=37) and controls were women without PPH after birth (n=110). Controls were matched to cases in a ratio of 1:3 (three controls per case) based on Gravidity and type of delivery to reduce confounding. Data were collected from patients' files using a structured checklist. Files were selected through non random sampling. Cox logistic regression was applied to estimate odds ratios and 95% confidence intervals.

### **Results:**

Mean age of participants was  $26.83 \pm 5.5$  years. After controlling for adjusted matching, several factors were significantly associated with PPH. Lack of antenatal care attendance increased the odds of PPH by more than six times (OR= 6.25; 95% CI: 1.19-32.85,  $p= 0.024$ ). Women delivering macrosomic babies had a threefold higher risk of PPH compared to those with normal weight infants (AOR=3.21; 95% CI: 1.12- 9.2,  $P= 0.030$ ). Residence in rural areas was also strongly associated with increased odds of PPH (OR= 6.55; 95% CI: 1.25- 22,  $p= 0.03$ ). Uterine atony is a very strong predictor of PPH, individuals with uterine atony being about 43 times more likely to experience PPH (OR=43.3; 95% CI: 1.35-13.78,  $p= 0.039$ ). Additionally, higher estimated blood loss was a robust predictor of PPH (OR= 1.009; 95% CI: 1.005-1.012,  $p$

### **Conclusion:**

Lack of antenatal care was strongly associated with increased PPH risk, highlighting the protective role of routine maternal monitoring and birth preparedness. Macrosomic infants were also linked to higher PPH odds, consistent with known risk of birth canal trauma. Uterine atony was the most powerful predictor, consistent with global evidence that it remains the leading cause of PPH. Additionally, higher estimated blood loss was a predictor, emphasizing the importance of vigilant intrapartum monitoring and timely intervention. These findings align with global evidence from low-resource settings and underscore the need to strengthen ANC services, prepare for high-risk deliveries, and implement effective hemorrhage management strategies to reduce maternal morbidity and mortality.

**Key words:** Postpartum Hemorrhage, risk factors, antenatal care, Matched case-control, Afghanistan

# Managing Hypoxic-Ischemic Encephalopathy without Therapeutic Hypothermia: Outcomes from a Tertiary Care Hospital in Kabul-Afghanistan

*Yasmin Hashwani, Maqbula Sahar, Sarfraz Karim, Omid Faizi, Farid Faqiri, Muhammad Naim Rahmat, Wais Mohammad Qarani*

## Background:

Hypoxic-Ischemic Encephalopathy (HIE) is a leading cause of neonatal mortality and long-term disability worldwide. Therapeutic hypothermia has significantly improved outcomes in high-income countries, but its implementation remains challenging in many low- and middle-income settings due to cost, infrastructure, and workforce limitations. Identifying effective, resource-adapted alternative approaches is essential to reduce preventable neonatal deaths.

## Objective:

To evaluate clinical outcomes of neonates with HIE managed without therapeutic hypothermia in a tertiary care neonatal intensive care unit (NICU) in Kabul, Afghanistan.

## Methods:

A retrospective review was conducted of all neonates admitted with HIE between January and December 2024. Data included gestational age, HIE severity, respiratory support, seizure management, length of stay (LOS), and outcomes. Management strategies emphasized non-invasive mechanical ventilation (NIMV), timely escalation to invasive ventilation, hemodynamic stabilization, seizure control, and standardized neuroprotective supportive care.

## Results:

Of 735 NICU admissions, 123 (16.7%) were diagnosed with HIE; 67 (54.5%) mild, 21 (17.1%) moderate, and 35 (28.5%) severe. The mean age at admission was 2.8 days.

- **Respiratory support:** 67 neonates required intubation. Of 30 initially placed on NIMV, 25 (83%) required escalation within 24 hours, while 5 (17%) remained stable. Another 39 were successfully managed with oxygen therapy alone.
- **Seizure management:** 40 (32.5%) received anticonvulsants (phenobarbital, levetiracetam, and/or midazolam).
- **Length of stay:** Mean NICU LOS for HIE cases was 4.3 days compared with 5.5 days overall.
- **Outcomes:** 57 (46.3%) were discharged, 26 (21.1%) died, and 37 (30.1%) left against medical advice due to family issues or poor prognosis.

## Conclusion:

In the absence of therapeutic hypothermia, structured supportive interventions—including judicious use of NIMV, timely ventilation escalation, and standardized neuroprotective care—yielded measurable survival benefits in neonates with HIE. Although mortality among severe cases remained high, these findings underscore the value of context-specific, resource-adapted models of care. Strengthening multicenter collaboration and developing feasible neuroprotective protocols are critical steps toward improving HIE outcomes globally.



## **Session 3**

# **Communicable Disease**

## **Descriptive analysis of Acute Watery Diarrhea outbreak in Parwan Province, 2025**

*Ahmad Tawfiq Saleh<sup>1</sup>, Mir Salamuddin Hakim<sup>2</sup>, Khwaja Mir Islam Saeed<sup>2</sup>, Mohebullah Shaba<sup>3</sup>, Wheedullah Rawoff<sup>4</sup>*

### **Introduction:**

Acute Watery Diarrhea (AWD) is defined as the passage of three or more loose or watery stools within 24 hours, with or without dehydration. AWD outbreaks have been reported in many countries, particularly in Asia and Africa, including Afghanistan. This study aimed to describe an AWD outbreak in Parwan province, identify its source, and provide recommendations for prevention and control.

### **Methods:**

A descriptive study was carried out in Parwan province from July 10 to August 24, 2025, to investigate the potential causes of illness and the modes of transmission during the outbreak. Active case findings were initiated through outpatient department (OPD) searches, supported by the establishment of a standardized case definition. Data was obtained from the provincial DHIS-2 reporting system and analyzed using Microsoft Excel.

### **Result:**

A total of 1,138 cases of acute watery diarrhea were identified during the outbreak, with a mean age of 29 years. Females accounted for 582 cases (51%). Most patients 1,136 (99%) presented severe dehydration, and two deaths were reported. The outbreak affected eight districts of Parwan province, with the highest number of cases reported from Charikar (50.1%), followed by Jabul Saraj (21.5%). Most cases (97%) occurred among individuals older than five years of age. The most frequently reported symptoms were vomiting (90.7%) and fever (66.3%).

### **Conclusion:**

The AWD outbreak in Charikar district underscored contaminated water and unsafe storage as major risks, with most cases from the city center. Strengthened surveillance, WASH measures, designated treatment areas, and improved hygiene practices are essential for prevention.

**Keywords:** AWD, Outbreak, Parwan, Diarrhea, Afghanistan

## Evaluating oral miltefosine and sodium stibogluconate for the treatment of cutaneous leishmaniasis in Kandahar, Afghanistan

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### Background:

Treatment of cutaneous leishmaniasis in Afghanistan comprises intralesional (IL) or intramuscular (IM) antimonial; oral miltefosine (MF) is unavailable in the public sector. We, therefore, assessed the tolerability and 6-month efficacy of sodium stibogluconate (Sb) and MF, including MF pharmacokinetics, in Kandahar, a city where *Leishmania* tropical predominates.

### Methods:

This clinical trial randomized patients aged  $\geq 5$  years to: IL-Sb x1/week x4w, IM Sb 20 mg/kg/day x20d, or allometrically scaled MF, target dose 2.5 mg/kg/d x28d. Children  $< 5$ y received MF. IL/IM-Sb was given based on lesion accessibility to IL injections. MF was partially supervised. Cure was defined as epithelialization of an ulcerated lesion or return to normal skin for other lesions, with resolution of signs of acute inflammation.

### Results:

Of 103 recruited patients (65 males), 15 were randomized to IL-Sb, 27 to IM-Sb, 37 to MF, and 24 under-5s received MF; respective median (interquartile ranges) ages were 11.9 (7.2–13.8), 9.9 (8.2–15.1), 10 (7.8–12.5), and 4.3 (2.9–4.9) y. 85/149 (57.05%) lesions were on the face. 60 patients completed the 6-month follow-up. Combining the MF groups, the Kaplan-Meier cure rates (95% confidence intervals) were: IL-Sb 73.3 (42.1–95.9) % ( $p=0.061$  vs. MF), IM-Sb 86.2 (55.9–99.2) % ( $p=0.004$  vs. MF), and MF 37.2 (22.0–58.1) %. Nausea and vomiting accounted for 19 (23.8%) and 52 (65%) of the 80 MF-reported adverse events, respectively. Laboratory adverse events were mostly grading 1 increase in ALT and AST in the IM-Sb and under-5 arms. Transient stage 1/2 acute kidney injury affected 11/24 (45.8%) under-5s vs. 5/37 (13.5%)  $\geq 5$ y MF patients ( $p$ -value=0.007).

### Interpretation:

Partially supervised MF efficacy was low. Sb was effective by both routes. Planned MF pharmacokinetic and pharmacodynamic modelling will determine whether the allometrically-scaled MF dose is optimal.

### Registration

The study registration reference is TCTR20180710007.

## Changing Dynamics of Bloodstream Infections and Resistance Profiles Insights from Three Study Phases (2010–2015 vs 2023–2024)”

*Esmatullah Esmat and Noor Hassan Saeedi*

### **Background:**

The prolonged armed conflict in Afghanistan has significantly disrupted the healthcare delivery system. Limited diagnostic resources have led to a reliance on clinical skills and estimation, which are often insufficient due to the complexities of applying standardized medicine. The evolving bacteriological landscape of septicemia highlights the importance of continuously evaluating causative pathogens and their antibiotic susceptibility patterns. Although blood cultures do not yield positive results in all septicemia cases, they remain the gold standard for diagnosing infections. Septicemia can be caused by bacteria, fungi, viruses, or protozoa.

### **Objective:**

To investigate the dynamic changes in pathogens responsible for bloodstream infections and to evaluate their epidemiological trends and antibiogram patterns across three study phases among in-patients at a pediatric tertiary care center at French medical institute for mothers and children (FMIC).

### **Methodology:**

Results of blood cultures from suspected cases of sepsis admitted in the FMIC, from January 2010 to December 2012 (Period-1), and from January 2013 to December 2015 (Period-2) and January 2023 to December 2024 (period-3) were completed. The data were collected from ILMS system. Standard microbiological methods were followed for blood culture and antibiotic sensitivity testing. All adult patients age of more than 18 years and all those blood culture which were positive for more than one organism were excluded from this study.

### **Results:**

Out of total (1686) cases of culture proven sepsis, (958) (56.8%) Gram-negative bacilli (GNB), (665)(39.4%) Gram-positive cocci (GPC), and (63) (3.7%) *Candida* species were isolated during the entire study periods. Out of 958 GNB isolates, (602) (62.8%) belonged to the Enterobacteriaceae and 345 (36.0%) were non-fermenters. Among Enterobacteriaceae, (267) (44.3%) were *Klebsiella* species (*K. pneumoniae*=163 (61.0%), *K. oxytoca*=67 (25%) were *Enterobacter* species (*E. cloacae*=6, *E. aerogenes*=18), 70 (11.29%) were *E. coli*, 52 (8.6%) were *Serratia marcescens* and 48 (7.9%) were others. Out of 190 non-fermenters, 111 (11.5%) were *Pseudomonas aeruginosa*, 43 (4.48%) were *Burkholderia cepacia* and 66 (6.88%) were *Stenotrophomonas maltophilia*. There was a drop in the frequency of Enterobacteriaceae from 85% in Period-1 to 58.68% in Period-2 and increase from 58.68% to 62.8% in period-3. There was an increase in the frequency of non-fermenters from 15% to 41.32 during Period-2 and dropt from 41.32% to 36.0%. Among GPC, there was an overall rise of 16.14% in the prevalence of *Staphylococcus epidermidis* during Period-2 and a drop of 9.64% in the frequency of *Staphylococcus aureus* during Period-2 and in period-3 *staphylococcus aureus* increased from 9.64% in to 19.2%. The majority of Gram-negative isolates were multidrug-resistant to commonly used antibiotics. However, most of the isolates were sensitive to amikacin, fosfomycin and imipenem (except *S. maltophilia*, *Acinetobacter* spp and *Pseudomonase* spp). The frequency of those producing ESBL reduced by 11.22% during the Period-2 and increased up to 17.7 in period-3. Among Gram-positive cocci, the pattern of antibiogram did not show a significant change during all three periods, and majority remained resistant to commonly used antibiotics. All *Staphylococci* were sensitive to vancomycin but resistant to penicillin. There

was a substantial decline of 18.87% in the frequency of Methicillin-resistant Staphylococci (MRSA/MRSE) during Period-2 and again showing decies up to 5% in period-3.

### **Conclusion:**

Bloodstream infections at FMIC showed dynamic shifts in pathogen distribution, with Klebsiella species and other Enterobacteriaceae remaining predominant, alongside a rising burden of non-fermenters. Multidrug resistance was common, though amikacin and imipenem retained activity against most Gram-negative isolates. Gram-positive cocci remained largely resistant to routine antibiotics but sensitive to vancomycin, with a decline in methicillin resistance over time. Continuous surveillance and antimicrobial stewardship remain essential.

### **Key Words: Antibiogram. Blood culture. Bloodstream infections. Paediatric hospital acquired infections. Kabul**

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### **Background:**

Cholera is a severe infectious disease leading to watery diarrhea and severe dehydration and rapidly cause of death if not treated immediately. Cholera tends to occur in areas with poor safe water supply and sanitation, including those devastated by war or natural catastrophes. Annually there are 1.3 to 4 million cases, and 21,000 to 143,000 deaths worldwide. Yemen has faced unprecedented cholera outbreak, with the largest ever reported cases from 2016 to 2022, resulting in over 2.5 million suspected cases and 4000 deaths. To analyses cholera cases in Aden governorate-Yemen epidemiologically.

### **Methods:**

This is descriptive cross-sectional study conducted on cholera cases in Aden governorate during the period 1st January-31st December 2024. The data was collected from surveillance department of Aden Health office as Excel file of notified cholera cases, where the standard WHO case definition was used. The Excel computer software (version 2016) was used to analyses the data, which presented as tables and graphs using frequency and percentage.

### **Results:**

Aden governorate reported 10463 cases, the maximum cases were in the week 24 and 28. Most of them residence in Ash Shaikh Outman and Dar Sad, the overall attack rate was 813/100,000. The male represents 50% of patients and 70% were >16 years old, the mean of age was 30 years. Most of the patients has some dehydration 63%, and 26% has severe dehydration, The rapid diagnostic test was positive in (74%), and the stool culture was positive in 59% of samples. The case fatality rate was 0.4 %.

### **Conclusion:**

The cholera still unsolved problem in Aden, which needs increase awareness dangerous, and provide safe water supply and good sanitation.

**Key word:** Cholera, watery diarrhea, Yemen, Aden

# **Assessment of Parent's Knowledge, attitudes, behaviors, and cultural beliefs Regarding Polio Vaccine at Maiwand Hospital (A Cross Sectional Study)**

*Author: Abdul Salim Alamiyan*

## **Introduction:**

Polio is a dangerous viral disease that can lead to permanent paralysis or even death. Vaccination is the best and most effective method for preventing this disease and is globally planned for eradication. Parents' awareness and acceptance of vaccination play a critical role in the success of such programs.

## **Objectives:**

This study aimed to assess parents' knowledge, attitude, and behavior toward polio vaccination and to identify the effects of demographic factors such as gender, place of residence, and education level on these variables. The study also explored the role of cultural and social beliefs in vaccination acceptance to identify potential barriers and propose strategies to improve vaccination uptake.

## **Method:**

This descriptive-analytical, cross-sectional study collected data from 384 parents using a structured questionnaire covering knowledge, attitude, behavior, and socio-cultural beliefs. Chi-square and linear regression tests were used to analyze the data and examine the associations among variables.

## **Results:**

The majority respondents are aged 28–39 (39.3%) with an average age of 35.7 years; gender distribution is nearly equal (51% male, 49% female). 57.6% are illiterate and 59.9% live in urban areas; 53.1% are unemployed, and 51.9% of families have 1–5 children. Findings revealed that 79.4% of parents had excellent knowledge about polio vaccination, 89.1% showed a positive attitude, and 65.4% exhibited appropriate behavior, while cultural beliefs were moderate in 49% and weak in 29.9% of parents. There was a statistically significant relationship between parents' gender and knowledge about vaccination ( $p=0.001$ ), attitude ( $p=0.020$ ), behavior ( $p=0.001$ ), and cultural beliefs ( $p=0.040$ ), but no significant relationship with general knowledge ( $p=0.261$ ). Place of residence was significantly associated with general knowledge ( $p=0.000$ ), vaccination knowledge ( $p=0.014$ ), and cultural beliefs ( $p=0.006$ ), but not with attitude ( $p=0.081$ ) or behavior ( $p=0.322$ ). Parents' occupation was related to vaccination knowledge, but not attitude ( $p=0.612$ ); however, behavior ( $p=0.025$ ) and cultural beliefs ( $p=0.000$ ) were associated with occupation. Moreover, there was a significant association between parents' general knowledge and vaccination knowledge, attitude, behavior, and cultural beliefs ( $p=0.000$ ). Vaccination knowledge was significantly related to attitude, behavior, and cultural beliefs ( $p=0.000$ ). Parents' attitudes were significantly associated with their behavior ( $p=0.000$ ), but not with cultural beliefs ( $p=0.238$ ). A significant relationship was also observed between parents' behavior and their cultural beliefs ( $p=0.000$ ).

## **Conclusion:**

Despite good levels of knowledge and attitude among parents, cultural, social, and economic barriers continue to limit ideal vaccination behaviors. Tailored educational and cultural programs adapted to the demographic and cultural context of various regions are essential. Health policymakers should consider these barriers in their planning and offer practical solutions to ensure the success of polio control and eradication efforts.

**Key Points:** Knowledge, Attitude, Behavior, Cultural Beliefs, Polio, Vaccination, Parents

# **Knowledge, Attitude, and Practice of Healthcare Workers Towards childhood vaccination: Insights from Health Facilities of Kandahar, Afghanistan**

*Abdul Sattar Amanzai<sup>1</sup>, Mohammad Haroon Stanikzai<sup>2</sup>, Khwaja Mir Islam Saeed<sup>3,4</sup>, Shoaib Naeem<sup>3,4</sup>, Mir Salamuddin Hakim<sup>3,4</sup>*

## **Introduction:**

Healthcare workers are positioned to play a pivotal role in promoting routine immunization as cost-effective intervention against Vaccine-Preventable Diseases (VPDs). While VPDs are still reported in Afghanistan, this study aimed to find out the level of knowledge, attitude, and practice of healthcare workers towards vaccination in Kandahar through multi-centered study.

## **Methods:**

A cross-sectional study was conducted in 30 out of 114 healthcare facilities, (24 BPHS HFs, 4 Private hospitals and two specialize hospitals), in 10 out of 18 districts of Kandahar, including Kandahar city from Jan - Mar 2024. Using simple random sampling approach, 469 HCW out of 1470 were randomly selected. In-person interviews were used to collect data using a prepared questionnaire that contained questions regarding knowledge, attitude, and practice in addition to demographic details. Descriptive statistical approaches such as frequencies and average scores for each indicator were used, using Statistical Package for Social Sciences (SPSS) (V 27, 2016), Overall, the response rate was 97.6%.

## **Results:**

From the total 458 HCWs enrolled, 188 (41%) were female with average age distribution of 30 with 9.17 Standard deviation. Notably, 346 (76%), were paramedic staff, including dedicated nurses and midwives, as front-line healthcare workers. 276 (60%) were parents of U5 children. Of the healthcare workers, 343 (75%) were contract basis employees, 299 (65%) were undergraduates, 167 (36%) were employed by non-Government Organizations (NGOs), 147 (32%) were government employees, and 118 (26%) were employed by the commercial sector. Of the healthcare workers, 365 (80%) were from the province's urban setting. Generally, 286 (62.4%) of the HCWs showed good knowledge of vaccination, 290 (63.3%) projected good attitude, and 356 (77.7%) manifested good practices towards immunization. The chi-square test was used, and the results showed gender was significant [CI 95%, P-value <0.001] against Knowledge and practice, Occupation was significant [CI 95%, P-value <0.002] to Attitude and practice. Education level, Type of service and monthly income were significant [CI 95%, P-values, <0.003, <0.005 and <0.005] respectively against knowledge and employee type, Implementer and work experience was significant [CI 95%, P-values <0.006, <0.001, <0.005] respectively against attitude.

## **Conclusion:**

Two-thirds of the HCWs showed good knowledge and attitude towards immunization while nearly four-fifths of them had good practice. Due to unique role of HCWs in promoting the vaccination approaches, tailored programs are recommended to boost the knowledge of HCWs, while improving workplace policies and provision of health information can improve the attitude of HCWs.

**Keywords:** Immunization, Knowledge, Attitude, Practice, HCWs, Health Facilities, Afghanistan

## Childhood Immunization Coverage in Afghanistan: Tracking Progress and Gaps

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### Background:

Immunization represents one of the most cost-effective strategies for improving child survival. However, Afghanistan continues to face substantial barriers to coverage. Conflict and the fragility of the health system have left large numbers of children without essential protection, resulting in progress that remains below the targets set by the Immunization Agenda 2030 (IA2030).

### Methods:

Data were extracted from the 2024 revision of the WHO/UNICEF Estimates of National Immunization Coverage (WUENIC). This report integrates national administrative records, household surveys, and expert validation to generate standardized national-level coverage figures. Indicators assessed included DTP1, DTP3, MCV1, MCV2, and the prevalence of zero-dose children, with performance benchmarked against the targets outlined in the IA2030.

### Results:

In 2024, Afghanistan's immunization coverage remained critically low. Coverage with DTP1 declined to 66% and DTP3 to 59%, resulting in nearly 590,000 under-vaccinated children. The number of zero-dose children increased to 490,000, accounting for 26.5% of the South Asian total and 3.4% of the global burden. Measles-containing vaccine coverage showed minimal progress, with MCV1 stagnating at 55% and MCV2 reaching only 44%. None of the 13 antigens achieved the  $\geq 90\%$  benchmark, with overall coverage ranging from 44% to 68%. Despite no reported vaccine stockouts, Afghanistan recorded the lowest regional coverage for both DTP1 and MCV1. Current trends are markedly misaligned with the IA2030 linear decline pathway, as the prevalence of zero-dose children exceeded the expected trajectory by approximately 46%. These findings reflect entrenched systemic barriers to immunization uptake and underscore the urgent need for targeted strategies to accelerate progress toward global benchmarks.

### Conclusions:

Afghanistan's immunization coverage remains critically low, reflecting persistent inequities and service delivery gaps. Strengthening health systems, community engagement, and outreach is essential to reducing zero-dose prevalence and achieving IA2030 targets. Without urgent, coordinated policy action, disparities will deepen, and the risk of vaccine-preventable disease outbreaks will remain high.

### Acknowledgements:

We gratefully acknowledge the WHO, the UNICEF, and the Ministry of Public Health of Afghanistan for their ongoing efforts in immunization data collection and reporting.



## **Session 4**

# **Quality and Patient Safety**

## **A Preventable Error (Gossypiboma) with Deadly Consequences: A case series of 13 patients**

*Authors: Assistant professor Dr Farhad Farzam, Dr Hamidullah Sediq*

*Organization: Kabul University of Medical Sciences, Aliabad Teaching Hospital*

### **Background:**

Gossypiboma refers to a retained surgical sponge or material left inside a patient's body after surgery, often resulting in serious or even fatal complications such as infection, obstruction, or sepsis. Despite its severity, gossypiboma is entirely preventable through proper surgical protocols and awareness. Imaging, particularly computed tomography (CT), plays a crucial role in its diagnosis. In resource-limited counties like Afghanistan, CT is more accessible than other advanced imaging modalities, making it a key tool for identifying these forgotten foreign bodies early and preventing further harm.

### **Objective:**

1. To describe the CT imaging features of gossypiboma in postoperative patients.
2. To raise awareness about gossypiboma as a preventable surgical complication.
3. To emphasize the role of CT as a valuable diagnostic tool, especially in resource-limited settings like Afghanistan.
4. To encourage better surgical protocols to prevent retained foreign bodies.

### **Method:**

We retrospectively reviewed 13 patients diagnosed with gossypiboma across multiple hospitals in Afghanistan over a 5-year period. Clinical records and imaging data were collected and analyzed, with a particular focus on computed tomography (CT) findings, which played a central role in the diagnostic process. Demographic information, presenting symptoms, time to diagnosis were also evaluated.

### **Result:**

All 13 patients had a history of recent abdominal surgery and presented with varying degrees of abdominal pain. CT imaging was performed in each case and successfully identified retained surgical materials consistent with gossypiboma. The most common radiologic findings included spongiform masses with gas bubbles, well-defined capsules, and associated inflammatory changes.

### **Conclusion:**

This case series highlights the critical importance of strict surgical protocols, attention to detail, and teamwork in preventing retained surgical materials such as gossypiboma. Proper surgical counting procedures and vigilance during operations are essential to avoid this preventable but potentially life-threatening complication. Additionally, the study underscores the key role of CT imaging as an effective and accessible diagnostic tool for identifying gossypiboma, particularly in resource-limited settings like Afghanistan.

# **Strengthening Knowledge and Compliance with CLABSI Prevention Bundles: An Educational Intervention in the ICU of a Tertiary Hospital in Kabul, Afghanistan**

*Authors: Fatima Khanam, Mirzarif Aziz, Tamana Alizada, Yasmin Hashwani*

## **Background:**

Central line-associated bloodstream infections (CLABSIs) are a major cause of morbidity and mortality in ICUs worldwide. In our tertiary ICU, reported CLABSI rates were “zero,” raising concerns of underreporting and limited awareness of prevention bundles. Simultaneously, multidrug-resistant organisms (MDROs) were increasingly identified in both central line and non-central line patients, signaling broader infection control gaps.

## **Objective:**

To improve ICU staff knowledge and compliance with CLABSI prevention bundles, while addressing MDRO risks through structured education and monitoring.

## **Methods:**

This quasi-experimental study involved 36 ICU staff (6 physicians, 30 nurses; ICU experience 1–16 years). Phase 1: Pre-intervention knowledge was assessed using a structured questionnaire. Phase 2: Educational sessions were delivered, emphasizing hand hygiene, appropriate antiseptics (with introduction of chlorhexidine where available), maximal sterile barrier precautions, standardized dressing changes, and daily line necessity review. Sessions were reinforced with visual reminders, bedside teaching, and a simulation-based signoff checklist for central line maintenance. Phase 3: Post-intervention knowledge was reassessed, adherence was observed using a standardized checklist, and ICU surveillance continued for CLABSI and MDRO trends.

## **Results:**

Mean pre-test knowledge score was 65.7%, with the lowest scores in antiseptic use (40%) and dressing change protocols. Post-test scores improved significantly to 87.5%. Observed adherence to bundle components, particularly hand hygiene and documentation, showed marked improvement. Early surveillance indicates a downward trend in CLABSI cases, though MDRO prevalence remains a challenge.

## **Conclusion:**

Targeted education significantly enhanced staff knowledge and compliance with CLABSI prevention bundles in a resource-limited ICU. To sustain these improvements, ongoing training, bedside checklists, and routine audits are essential. The persistence of MDROs highlights the urgent need to integrate infection prevention with antimicrobial stewardship. This study demonstrates that structured educational interventions can strengthen patient safety even in low-resource settings.

**Keywords:** CLABSI, Educational Intervention, Bundle Compliance, Infection Prevention, Multidrug-Resistant Organisms, Resource-Limited Settings

# **Educational Intervention to Improve Documentation Compliance and Staff Knowledge in Critical Care Units: A Quasi-Experimental Study in Kabul, Afghanistan**

Authors: Yasmin Hashwani, Sarah Tabassum, Neda Sayeed, Iqbal Ali Bawari, Fatima Khanam

## **Background:**

Accurate and complete documentation is a cornerstone to patient safety, continuity of care, and quality assurance. Deficiencies in documentation contribute to medical errors, communication gaps, and compromised patient outcomes. This challenge is particularly pronounced in resource-limited healthcare settings, where staff shortages, limited training, and inconsistent practices impact compliance, continuity of care and documentation standards which reflect quality of care.

## **Objective:**

To evaluate documentation compliance through an open medical record audit and to determine the impact of an educational intervention on nurses' knowledge and practice in critical care units.

## **Methods:**

A quasi-experimental study was conducted in two phases. Phase I –Practice review by open medical record review: A retrospective review of 50 patient files (ICU=25, NICU=25) assessed compliance with documentation standards using the Critical Care flowsheet. A compliance benchmark of 90% was set. Phase II – Educational Intervention: Forty-five nurses (NICU=20, ICU=25) participated in pre-test assessments, targeted training sessions, and post-test evaluations. Assessments measured knowledge, scenario-based documentation skills, and adherence to standards were measured.

## **Results:**

Phase I –Practice review: Average compliance was 82%, with only 32% of records achieving  $\geq 90\%$ . Key gaps included unapproved abbreviations (88%), incomplete patient plan/rounds (52%), and missing or incomplete alarm settings (52%). Phase II –Knowledge and Intervention Outcomes: Pre-test knowledge averaged 82% (ICU=83%, NICU=81%), and scenario-based documentation accuracy was 69%. Post-test results demonstrated significant improvement: average knowledge rose to 97% (ICU=96.6%, NICU=97.4%), and scenario accuracy increased to 96%. The lowest post-test scores (80–85%) were substantially higher than the lowest pre-test range (60–65%).

## **Qualitative findings:**

showed improved structure, correct error handling, and consistent documentation of patient response.

## **Conclusion:**

The baseline review revealed considerable documentation gaps, particularly in abbreviation use, care planning, and alarm settings. The educational intervention substantially improved staff knowledge and documentation quality, highlighting the effectiveness of structured training in critical care. Sustained education, regular audits, and reinforcement strategies are recommended to ensure long-term compliance, enhance patient safety, and standardize documentation practices.

**Keywords:** Documentation, Nursing education, Compliance, Critical care, Quality improvement,

# **Strengthening Communication, Safety, and Quality of Care through Structured Huddles: A Transformational Experience from the NICU of a Tertiary Hospital in Kabul, Afghanistan**

*Authors: Yasmin Hashwani, Maqbula Sahar, Muhammad Naim Rahmat, Wais Mohammad Qarani, Omid Faizi, Sarfraz Karim, Farid Faqiri*

## **Background:**

Structured huddles are increasingly recognized as effective strategies for strengthening communication, teamwork, and patient safety in high-acuity environments. In neonatal intensive care units (NICUs), where critically ill neonates require coordinated and time-sensitive interventions, communication gaps can directly compromise outcomes. To address this challenge, the NICU at the French Medical Institute for Mothers and Children (FMIC) introduced structured daily huddles in October 2024 to enhance collaboration, standardize handoffs, and integrate safety and quality into daily practice.

## **Objective:**

To evaluate the impact of structured huddles on communication, collaboration, patient safety, and quality of care from the perspective of multidisciplinary NICU staff.

## **Methods:**

In August 2025, a cross-sectional survey was conducted among 33 NICU staff members, including nurses (69.7%), physicians (18.1%), and support staff (12.2%). The survey explored perceptions of communication, teamwork, quality improvement, staff engagement, and overall impact. Descriptive statistics were used for analysis.

## **Results:**

Most staff (81.8%) agreed that huddles improved handoff communication. Reported benefits included clearer care plans (78.8%), greater team trust (75.8%), and more accurate patient updates (84.9%). Huddles promoted interdisciplinary collaboration, with 63.6% reporting increased mutual respect and 48.5% improved teamwork, though 66.7% emphasized the need for broader participation. In terms of quality and safety, patient safety events (84.9%), infection rates (81.8%), and family-related concerns (72.7%) were highlighted as key indicators. Improvements were noted in timely identification of care needs (66.7%) and overall quality of care (69.7%), although barriers included insufficient follow-up (78.8%) and limited engagement (42.4%). Overall, 57.6% rated huddles as “very valuable” to patient care, 85% expressed willingness to continue, and 51.5% acknowledged a significant contribution to professional growth.

## **Conclusion:**

Structured huddles have transformed FMIC’s NICU by fostering communication, enhancing collaboration, and embedding safety and quality into routine care. Despite challenges related to time management and follow-up, staff overwhelmingly perceived huddles as a sustainable, low-cost, and high-impact strategy. This initiative underscores FMIC’s commitment to innovation and excellence in neonatal care and highlights its role as a regional model for quality improvement in resource-limited settings.

**Keywords:** NICU, huddle, patient safety, communication, teamwork, quality improvement

# **Improve staff knowledge practice on Care Bundles to prevent Catheter-Associated Urinary Tract Infection**

*Authors: Ahmad Shaker Yaqoobi, Yasmin Hashwani, Muhammad Naim Rahmat, Wais Mohammad Qarani*

## **Background:**

Catheter-associated Urinary Tract Infections (CAUTIs) remain among the most common hospital-acquired infections, yet they are largely preventable through adherence to standardized care bundles. In resource-constrained hospitals, limited awareness and inconsistent implementation of evidence-based practices continue to hinder effective infection prevention.

## **Objective:**

This study aimed to strengthen healthcare providers' knowledge and compliance with CAUTI prevention bundles through a structured educational intervention in a resource-limited tertiary hospital.

## **Methods:**

A hospital-wide educational program was delivered to nurses across inpatient services, including critical care units and general wards. Staff knowledge was assessed in five categories: (1) Basic Knowledge of CAUTI, (2) Indications and Policy Guidelines, (3) Insertion and Technique, (4) Catheter Care and Maintenance, and (5) Specimen Collection and Diagnosis. A comparative analysis of pre- and post-test scores were carried to measure variances. Due to logistical constraints, hands-on skills training was not feasible; however, theoretical content was thoroughly delivered, and key procedures—including catheter insertion, urine sampling, and CAUTI prevention practices—were reinforced.

## **Results:**

A total of 116 nurses participated in the study, including 63 from critical care and 53 from general wards. Comparative analysis of pre-test (74%) and post-test (89%) results demonstrated significant improvement across all five categories. The greatest gains were observed in Indications and Policy Guidelines (71% to 97%), Specimen Collection and Diagnosis (54% to 78%), and Basic Knowledge of CAUTI (70% to 93%). Moderate improvements were noted in Catheter Care and Maintenance (73% to 88%) and Insertion and Technique (85% to 90%), showing that while baseline knowledge existed, the intervention further strengthened.

## **Conclusion:**

A structured, category-based educational intervention significantly enhanced staff knowledge and compliance with CAUTI prevention bundles. Integrating such targeted training into routine practice, supported by policy reinforcement and monitoring, can help reduce CAUTI incidence and improve patient safety, even in limited-resource settings.

**Keywords:** CAUTI, Nursing education, Infection prevention, Knowledge assessment, Limited-resource hospital

## **Management of dead stock: a strategic approach to reduce waste and improve efficiency**

*Authors: Zakia Hassani, Mirahmad Hameedi, Rahmali Alamyar, Abdullah Bahloli, Mohammad Naim Rahmat, Abdul Akbar Noor, Mohammad Taqi Ehsani, Wais Mohammad Qarani*

### **Introduction**

Dead stock is referred to unwanted merchandise that's been taking up room on your pallet rack and carries cost for ages. It poses significant challenges in the hospital inventory management. They lead to increased costs, reduced storage efficiency and resource wastages. Systematic quality improvement approach is required to address this issue.

### **Objectives**

This project aimed to identify, reduce, and prevent dead stock in the hospital to improve supply chain efficiency and patient care delivery.

### **Methodology:**

We used PDSA cycle to conduct this project over 7 months period during 2025. The data was extract from the PeopleSoft (FSCM) system. Key performance indicator such as inventory turnover, expiration rates, and consumption trends were analyzed. MS Excel was used to present the results descriptively.

### **Result:**

The dead stock was categorized into six categories, and they were supplies mainly related to COVID19, Spares, Orthopedics, Cardiology and Cardiac Surgery. The overall dead stock valued Afs. 50.5M before the start of the project, while it reduced to Afs. 47.9M over 6 months project period showing Afs. 2.6M (5%) reduction in dead stock. Numerous strategies including; using as alternate to the first choice, alteration of the design of the items, proving the items in-kind to the needy people were used to consume the stock. High level of dead stock was linked to poor demand forecasting, turnover of the team requested the supply and unawareness.

### **Conclusion and recommendations:**

This project had a significant improvement in the utilization of dead stock in the hospital. Effective inventory control plays a vital role in the provision of high-quality health care services which has a direct impact on patient safety. It is recommended that, the project to be continued in order to identify loops and adjust consumption level according to the actual need.

# Strengthening Patient Education through Visual Teaching Aids in Adult Cardiac Care at a Tertiary Hospital in Kabul, Afghanistan

*Authors: Shafiqah Khirkha, Nikqadam Walizada, Munizha Wahaj, Fatima Khanam*

## Background:

Patient education is a cornerstone of quality cardiac care, influencing treatment adherence, self-management, and long-term outcomes. In low-resource settings such as Afghanistan, patient education is primarily verbal, which often proves insufficient for individuals with limited literacy. This gap results in poor comprehension, weak adherence to prescribed regimens, and reduced satisfaction. Global evidence indicates that visual teaching aids enhance health literacy, engagement, and knowledge retention compared to verbal-only approaches. At the French Medical Institute for Mothers and Children (FMIC), despite modern facilities and a skilled workforce, structured patient education remains a challenge. This project aimed to address these barriers by integrating visual teaching aids into adult cardiac care.

## Objective:

To strengthen patient education and improve comprehension by introducing visual teaching aids in adult cardiac units at a tertiary hospital in Kabul, Afghanistan.

## Methods:

The project was conducted across CCU, CICU, and CSDU. A structured survey was administered to 50 cardiac patients (48% male, 52% female; 42% without formal education) and 30 nurses (60% male, 40% female; 76% diploma, 24% BScN). The Donabedian model guided the intervention:

- Structure: Development of culturally appropriate visual materials (charts, brochures, videos) and nurse training sessions.
- Process: Integration of visuals with verbal explanations using the teach-back method.
- Outcome: Assessment of patient comprehension, knowledge retention, and satisfaction through pre- and post-intervention surveys.

## Results:

Before the intervention, 74% of patients reported no use of visual aids, while 76% did not fully understand the information provided. The most common gaps were related to diagnosis (34%), diet (30%), and medication use (20%). Among nurses, 75% relied solely on verbal explanations, citing barriers such as lack of resources, limited time, and language challenges. After the intervention, patient satisfaction increased to 98%, and 90% report improved knowledge retention. Understanding of disease processes improved by 55%. Additionally, 75% of nurses expressed that visual tools enhanced patient engagement and improved their teaching effectiveness.

## Conclusion:

Integrating visual teaching aids significantly improved comprehension, knowledge retention, and patient satisfaction in adult cardiac care. Institutionalizing this approach at FMIC may provide a sustainable model for strengthening patient education and improving outcomes in similar low-resource settings.

**Keywords:** Patient education, visual teaching aids, cardiac care, health literacy, Afghanistan, Donabedian model, low-resource setting.



## **Session 5**

# **Nursing, Midwifery, and Allied, Nutrition and Food Security**

## **Isolation, Identification and Antibiotic Susceptibility Profile of Methicillin-Resistant Staphylococcus aureus (MRSA) in Jalalabad**

*Author: Muhammad Khan*

### **Introduction:**

Methicillin resistant Staphylococcus aureus (MRSA) is recognized as a major health problem causing from minor to life threatening infections. This study was designed to isolate, identify and study the sensitivity profile against different antimicrobial agents.

### **Methodology:**

A total of 450 clinical samples were collected from different hospitals in Jalalabad and each sample was processed according to conventional methods using blood agar and Mannitol salt agar. S. aureus was identified by gram staining and different biochemical tests like catalase and coagulase tests. Molecular identification was carried by 16s ribosomal RNA sequencing. mecA gene amplification and ceftioxin sensitivity were used for confirmation of MRSA.

### **Results:**

A total of 42 (9.33%) isolates were identified as MRSA, 16s rRNA sequencing showed 99.88% similarity, among which 28 (66%) were from pus samples, 14 (33%) were from fluids samples. It was found that MRSA was more in males (69%) than in females (31%). All isolates were found completely resistance to oxacillin, ampicillin and penicillin and were sensitive to linezolid, teicoplanin, and vancomycin. These MRSA strains also showed various degrees of resistance to other antimicrobials such as ceftriaxone (79.77%), erythromycin (88.12%), clindamycin (71.11%), co-amoxiclav (72.45%), fusidic acid (66.66%), and gentamycin (73.3%).

### **Conclusion:**

As MRSA is multidrug resistant so timely and proper culture and sensitivity should be performed so that the bacterium is treated with sensitive antibiotics. This study indicated that the isolated MRSA was resistant to high class antibiotics like ceftriaxone, amoxicillin/clavulanate, erythromycin, and gentamycin while linezolid, teicoplanin, and vancomycin were sensitive for all isolat

**Prevalence of undernutrition and associated factors among pregnant women in a CHC clinic in Kabul city, Afghanistan, 2025: A cross-sectional study design**

## **Impact of Night Shifts on Mental Health of Critical Care Nurses in Kabul, Afghanistan**

*Autor: Shabnam Azad, Fatima Khanam, Niaz Omidullahy, Ali Arjumand*

### **Background:**

Night shift nursing in critical care units poses significant challenges to nurses' physical health, cognitive functioning, emotional well-being, and job satisfaction. Studies highlight the impact of night shifts on sleep disruption, cognitive decline, and emotional stress, which are intensified by workplace conditions and insufficient support in resource-limited settings like Afghanistan. At FMIC, this is the first study to explore the effects of night shift effects on nurses' mental health.

**Objective:**

To assess the impact of night shift on nurses' mental health and well-being working in critical care areas of a tertiary care hospital in Kabul, Afghanistan.

**Method:**

A cross-sectional study was conducted in critical care units i.e., ICU, NICU, CICU and CCU of a tertiary care unit, Kabul, Afghanistan. A structured questionnaire was administered with (a) demographic variables (b) five domains i.e., physical health, cognitive health, emotional well-being, workplace support, and job satisfaction. Out of 59 nurses approached, 57 responded, all full-time shift workers. Informed consent was obtained. Participants' mean age was 33 years, 77% were male, 23% were female. Regarding marital status, 75% were married and 25% were single and most nurses had 5-10 years of working experience.

**Results:**

Study findings revealed significant impairment across all five domains. In physical health domain, 81% reported fatigue and 65% sleep disturbances. Cognitive impacts included reduced work performance (88%) and compromised patient safety (67%), and difficulty concentrating (56%). Emotional well-being was affected, with mood swings (58%), emotional exhaustion (56%), and stress symptoms (58%). Workplace support was inadequate: 63% experienced pressure from long hours, 60% lacked supervisor support, and 56% reported unmanageable workloads. Job satisfaction decreased to 61% and 67% felt less motivated for subsequent shifts.

**Conclusion:**

Night shift work significantly impairs nurses physical, cognitive, and emotional health and reduce job satisfaction. Workload optimization, mental health program, supervisor support, modified shift hours and appropriate staff coverage in the night shifts can mitigate the negative effects. Targeted interventions can improve nurse well-being and patient care outcomes in Afghanistan's challenging healthcare context.

**Prevalence of undernutrition and associated factors among pregnant women in a CHC clinic in Kabul city, Afghanistan, 2025: A cross-sectional study design**

*Zainab Ezadi<sup>1\*</sup>, Maliqa Mhaqiq<sup>2</sup>, Agus Fitriangga<sup>3</sup>, Robaba Edalat<sup>4</sup>*

**Introduction:**

Maternal undernutrition remains a major public health challenge in low-resource settings, with significant implications for maternal and child morbidity and mortality. There is limited evidence exists on the determinants of undernutrition among pregnant and lactating women in Afghanistan. The objective of this study was to assess the prevalence of malnutrition and associated factors among pregnant women and lactating mothers in a CHC clinic, Kabul, Afghanistan.

**Methods:**

A cross sectional study was conducted from 1 April to 7 August 2025, among pregnant women and lactating mothers in Pole Khushk Clinic. Data were collected on sociodemographic, reproductive health and nutritional factors using structured questionnaire and MUAC measurements. Undernutrition was defined as a mid-upper arm circumference (MUAC) <23 cm. bivariate and multivariable logistic regression was

performed to identify factors independently associated with undernutrition. A sample of 421 women was selected using a systematic random sampling approach from the registry book of nutrition department.

### **Results:**

The prevalence of undernutrition among pregnant women and lactating mothers was 50.4%. Younger age <20 years was strongly associated with undernutrition. Women in this group were nearly four times more likely to be undernourished compared to those  $\geq 35$  years. Maternal illness was also significant; women with physical sickness have 38% lower odds of being adequately nourished. Food insecurity was shown to be the most influential predictor, with women more than twice as likely to be undernourished. In contrast, education, family planning use, and nutritional knowledge were not independently associated with nutritional outcomes.

### **Discussion**

The study highlights that undernutrition among pregnant and lactating women in Afghanistan is strongly influenced by structural determinants such as food insecurity, maternal illness, and young maternal age. These findings are alongside with evidence from Sub-Saharan Africa and other low-resource settings, where biological immaturity, infectious diseases, and inadequate household food access exacerbate nutritional vulnerability. There is a lack of association between education and nutritional knowledge and undernutrition after adjustment further suggests that individual awareness alone is insufficient without addressing systemic barriers.

### **Conclusion:**

In this study undernutrition among Afghan pregnant women and lactating mothers is stimulated primarily by pregnancy in younger ages, presence of maternal illness, and household food insecurity, underscoring the importance of structural and health-related determinants over individual-level knowledge. Addressing these factors are crucial for improving maternal health and consequently child health and for advancing progress toward Sustainable Development Goals 2 and 3.

**Key words:** prevalence, malnutrition, pregnant women, lactating mothers, Kabul, Afghanistan

## **Nursing, midwifery and allied health professions education in Afghanistan: Current status and a vision for the future**

*Jawad Khenjani<sup>1</sup> and Muhammad Haroon Stanikza<sup>2\*</sup>*

### **Background:**

Nursing, midwifery, and allied health professions education are essential for optimizing health systems. However, there is a lack of systemic evidence exploring infrastructural, workforce, financial, and policy-related challenges in these professions in Afghanistan.

### **Objectives:**

This study aimed to assess the status of nursing, midwifery, and allied health profession education in Afghanistan and present a vision for the future using narrative synthesis methods.

### **Methods:**

We limited this narrative review to studies published between 2000 and 2024. Articles were retrieved from two electronic databases (PubMed and Scopus) and on searching engine Google Scholar. The results were presented using narrative synthesis methods.

### **Results:**

Of 482 identified articles, 7 studies fulfilled the pre-specified eligibility criteria and were included in the narrative review. Of the studies included, 3 were related to nursing, followed by midwifery (2) and allied health professions education (2). These articles revealed significant infrastructural, workforce, financial, and policy-related impediments over the years.

### **Conclusion:**

Despite the well-established importance of these health profession education in developing a responsive health system, these health profession educational programs have a lot of room for growth and development to meet the standards set on regional and global grounds. Moreover, the current state of the literature underscores the need for further research on the topic.

**Keywords:** Nursing, Midwifery, Health profession, Challenges, Afghanistan

## **Association of maternal nutrition knowledge with nutritional status of children under 2 years old in Laghman province**

*Qudratullah Fazeli*

### **Introduction:**

This study investigates the relationship between maternal nutrition knowledge and the nutritional status of children under two years old in Laghman Province, Afghanistan.

### **Method:**

An analytical cross-sectional study design used, and the data for this study collected by trained female health worker from 369 mother-child pairs attending health facilities across six districts of Laghman province. Structured questionnaires and anthropometric assessments tools aligned with WHO standards used for collecting the data.

### **Findings:**

The findings of this study indicate that majority of mothers (69%) possess high nutritional knowledge, which significantly influence child nutritional outcomes. Specifically, higher maternal nutritional knowledge was strongly associated with the decreased prevalence of wasting and being underweight. The logistic regression models reveal that higher maternal nutritional knowledge markedly reduces the odds of wasting (OR: 0.053), stunting (OR: 0.582), and underweight (OR: 0.303). No significant relationship was observed between maternal nutritional knowledge and over nutrition status in children. The study highlights the critical role of maternal nutritional knowledge in improving child nutrition and suggests that targeted nutritional education interventions could substantially reduce malnutrition prevalence.

### **Conclusion:**

These findings provide valuable evidence for policymakers and health practitioners to design culturally appropriate, community-based maternal nutrition programs to enhance child health outcomes in similar resource-constrained settings.

### **Key words:**

Infant and Young Child Feeding Counseling, Nutritional Knowledge, Under 2 Years Old Children, Nutritional Status, Exclusive Breast Feeding, Complementary Feeding, Laghman Province.

## **Seeing Beyond the Image: Strengthening Chest X-Ray Interpretation among Staff Working in Critical Care Areas**

*Authors: Yasmin Hashwani, Dr. Adil Zaki, Ahmad Shaker Yaqoobi, Mohammad Yasin Jamakzai, Muhammad Naim Rahmat, Wais Mohammad Qarani.*

### **Background:**

Accurate chest X-ray interpretation is a vital skill in intensive and acute care settings, directly influencing patient management and outcomes. In resource-limited environments, staff often have varying levels of expertise in radiological assessment. Structured educational interventions can bridge these knowledge gaps, strengthen diagnostic accuracy, and build confidence among healthcare teams.

### **Objective:**

This study aimed to prepare nurses to identify common findings while interpreting chest X-rays.

### **Methods:**

Between November 2024 and January 2025, a total of 50 participants were enrolled, including 35 ICU staff (4 doctors and 31 nurses) and 15 nurses from the Adult cardiac services (ACS) unit. Baseline knowledge was assessed using a 10-item multiple-choice questionnaire (MCQ) covering anatomy, pathology recognition, and device placement. Participants attended interactive learning sessions facilitated by a radiology consultant. Post-test assessments included the same MCQs and five image-based questions (Q11–15), requiring participants to identify radiological findings such as pneumothorax, pleural effusion, cardiomegaly, dextrocardia, and medical device positioning.

### **Results:**

The intervention showed measurable improvements. Overall scores increased from 49% in the pre-test to 76% in the post-test. Among ICU (n=31) nurses, correct identification of pneumothorax rose from 40% to 72%. ACS nurses (n=15) improved in recognizing dextrocardia and pleural effusion, from 47% to 70%. Doctors achieved the highest gains, improving from 60% to 84%. Additionally, 60% of participants reported greater confidence in chest X-ray interpretation and applying findings to patient care. These outcomes highlight the value of structured learning and suggest further opportunities to embed radiology teaching into routine practice.

### **Conclusion:**

Quiz-based, expert-led interactive sessions are an effective strategy to enhance chest X-ray interpretation skills among staff. While the intervention improved knowledge, confidence, and interdisciplinary learning, consistent staff involvement during routine rounds continues to be a challenge. Embedding structured radiology teaching into daily practice may be necessary to translate knowledge gains into long-term clinical impact.

**Keywords:** Chest X-ray interpretation, quiz-based learning, critical care education, ICU, ACS, radiology training, interdisciplinary learning, resource-limited settings

## **Challenges in Nursing Management of Neonates with Hypoxic-Ischemic Encephalopathy in a Resource-Limited NICU**

*Authors: Maqbula Sahar, Yasmin Hashwani, Mohammad Naim Rahmat, Omid Faizi, Sarfraz Karim, Farid Faqiri, Wais Mohammad Qarani*

### **Background:**

Caring for neonates with Hypoxic-Ischemic Encephalopathy (HIE) in resource-limited neonatal intensive care units (NICUs) presents unique challenges. In the absence of therapeutic hypothermia and advanced neuromonitoring, nurses remain the frontline guardians of care, balancing vigilant observation, thermal regulation, seizure management, and family counseling with limited resources. These circumstances test clinical expertise and demand resilience, adaptability, and creativity from nursing teams.

### **Objective:**

To identify major nursing challenges in the management of neonates with HIE in a resource limited NICU and to describe adaptive practices used to ensure safe and effective care.

### **Methods:**

A retrospective review was conducted of neonates admitted with HIE to the NICU of a tertiary care hospital in Kabul, Afghanistan, from January to December 2024. Clinical records, nursing documentation, and staff feedback were analyzed to assess barriers in care delivery and strategies adopted by nurses.

### **Results:**

Of 738 NICU admissions, 123 neonates (16.6%) were diagnosed with HIE: 11 preterm <35 weeks, 11 late-preterm ≥35 weeks, 3 late-term, and 98 term. The mean age at admission was 2.8 days. Only inborn neonates arrived within 6 hours of birth, while all out-born neonates presented late, with a mean referral time of 73 hours—beyond the therapeutic hypothermia window. The mean NICU stay for HIE patients was 4.3 days compared with 5.5 days overall, while mean hospital stay was 7.3 days compared with 7.9 days overall. Among HIE cases, 57 (46.3%) were discharged, 26 (21.1%) died, and 37 (30.1%) left against medical advice mainly due to poor prognosis or family issues. Key challenges included delayed referral and arrival to emergency, lack of therapeutic hypothermia, difficulty in maintaining stable thermal environments, and absence of standardized HIE-specific protocols. Adaptive practices included intensified bedside observation, manual methods of thermal regulation, prioritization of seizure monitoring, and proactive family education.

### **Conclusion/Recommendation:**

Nurses in resource limited NICUs face substantial challenges in managing neonates with HIE, yet their adaptive strategies are central to optimizing outcomes. Strengthening protocols, expanding nurse training, and providing context-appropriate resources are critical steps to advance neonatal care where therapeutic hypothermia and advanced technology are unavailable. A national level mechanism is required for early referral of the neonates.

**Keywords:** Hypoxic-Ischemic Encephalopathy, Neonatal Nursing, Resource-Limited NICU, Nursing Challenges, Adaptive Strategies

## **The First Golden Hour: Promoting Early Breastfeeding for Mother and Newborn Health**

*Authors: Zulaikha Zia, Sajia Baqyee, Najma Mirzaei, Wais Mohammad Qarani*

### **Background:**

Early initiation of breastfeeding, within one hour of birth, protects the newborn from acquiring infection and reduces newborn mortality. It facilitates emotional bonding. The yellow or golden first milk produced in the first days, also called colostrum, is an important source of nutrition and immune protection for the newborn.

Purpose: The aim of this study is to determine factors that contribute to delays in early breastfeeding practices.

### **Methodology:**

This research consisted of pre and posttest to understand the knowledge of healthcare professionals and a tool to assess the knowledge of the mothers on the importance of early breast feeding. The tools were derived from the literature, and it was reviewed through experts in the field. The data collected was transferred to MS Excell and was analyzed descriptively. Measures were in place to ensure confidentiality of the information. Total 25 midwives were included in this study. The average score gained in pre-test was 66.28% and in post-test 98.08% showing 30.7% increase in staff knowledge. Educational level and year of experience had no relationship with the scores in both pre and posttest. On the other hand, 26 mothers were included in the study; their age ranged from 20-40 years. majority of the mothers (92%) were literate. 11 mothers had 1-2 child; 10 mothers had 3-5 and 3 mothers had more than 5 children. 50% of the mothers reported that their newborn baby was not kept with her during first hour of delivery. The average number of ANC was 5; however, only 8 mothers had the recommended number of ANC visits. 84.6% of the mothers did not receive any education on breastfeeding during her ANC and PNC visits; and they all received information on the important of breastfeeding from sources other than healthcare professionals. 7 mothers lacked knowledge when to start breast feeding. 10 mothers who reported the duration of the exclusive breastfeeding less than 6 months also stated that they can wean the baby before six months.

### **Conclusion/Recommendation:**

This study highlighted significant gaps in both health care providers and mothers' knowledge and practices regarding early initiation of breastfeeding. Targeted educational interventions can positively influence health care practices. However, despite relatively high maternal education levels, a considerable proportion of mothers were not informed about early initiation of breast feeding during antenatal or postnatal care. Hence it is recommended to integrate breastfeeding education into ANC/PNC, promote rooming-in practice, and develop comprehensive policy to support the early initiation of breastfeeding.

## **Reducing the Number of Cardiac Arrests Through Training and Execution of Rapid Response Team**

Authors: Munira Ramzi | Marufa Muradi | Noorulamin Fahim Safi | Wais Mohammad Qarani

### **Introduction**

Cardiac arrests in hospitals are events associated with high mortality rates. Implementing structured education and training programs for staff, along with the effective execution of a Rapid Response Team (RRT), can significantly reduce the incidence of in-hospital cardiac arrests.

### **Purpose:**

This project aims to improve staff knowledge and practice for early recognition of warning signs and escalation to halt progression to cardiac arrest.

### **Methodology:**

Data from numerous sources were extracted to determine the trends of code blue and patient transfers from low to high acuity level of care. Besides that, a pre-test and post-test were implied to determine staff knowledge on the subject. The pre-test and post-test questionnaire was derived from the available clinical policies. Staff were given training on these policies after the pre-test, and then a post-test was conducted accordingly. Data was collected from 97% of staff working in non-critical areas. MS Excel was used to analyze the data using descriptive statistics. Verbal consents were taken from the staff, and measures were in place to ensure confidentiality of the information and ensure staff comfort.

### **Results:**

Total 88 staff were included in the project among which 64 (72.72%) were nurses and 24 (27.27%) were midwives. Majority of the participants were female 49 (55.68%). The average score in pre-test was 62.03%; while it increased to 85.02% in the post-test, which shows a 22.99% increase in their knowledge. Surprisingly, those staff who had less than one year and those who had more than five years of experience scored lower than those who had 3-5 years of experience. Given the participants gender and level of education, there was no significant variance in the pre and post test scores. The data gathered retrospective indicate that 15 patients resuscitated during 2024 with 80% survival rate. During two quarter of 2025 a total of 18 patients resuscitated with 94.44% survival rate. Furthermore, 355 patients were transferred from low to high acuity level of care during 2024; while during two quarters of 2025, 189 were transferred. Majority (85.18%) of the transfers were from the medicine wards.

### **Conclusion/Recommendation:**

Cardiac arrests and transfer from low to high acuity level of care can be reduced through staff education, RRT execution, and system improvements. Policy revision, form development, designing flyers, setting performance indicator and comprehensive training program were part of the project cycle. Collectively, these measures contributed in the early detection of patient deterioration and improve patient safety outcomes.



## **Session 6**

### **Health System, Health Education, Health Innovation**

## **Knowledge and awareness of Artificial intelligence among medical staffs in Kabul city**

*Mohammad Hussain Mohammadi M.D.<sup>1</sup>, Ahmad Mostafa Rahimi M.D.<sup>1</sup>, MS, Mohammad Tariq Rahimi M.D., MS<sup>2</sup>, Abdulbashir Bashari M.D., MS<sup>1</sup>, Mohammad Nowroz Piwand M.D.<sup>2</sup>, Shukrullah Hussini M.D.<sup>1</sup>, Soma Fahim M.D.<sup>3</sup>*

### **Introduction:**

Artificial intelligence nowadays becoming more useful for many fields especially in the medicine. The use of advanced technology has enabled humans to make effective decisions in various areas of life, including medicine. We carried out this study to find out information from health workers. It was considered that due to limited access to technology, their knowledge would be limited.

### **Methods:**

A cross-sectional study was conducted at hospitals and clinics in Kabul city to determine level of knowledge of healthcare workers about artificial intelligence from January 2025 to February 2025. The sample size was 256 people, and the participant were selected randomly.

### **Results:**

We recruited 380 participants for this study. Approximately, 32% of the healthcare workers were female. The majority (36%) of healthcare workers were nurses, while 25% were physicians. The median awareness, attitude, and behavioral scores were 5/6 (IQR 3–6), 5/8 (IQR 4–7), and 0/3 (IQR 0), respectively. Approximately three-fourths (74%) of the healthcare workers believed that they understood the basic computational principles of AI. Only half of the participants were willing to use AI when making future medical decisions. We found that male healthcare workers had better knowledge scores regarding AI as compared to female healthcare workers (Beta = 0.555, 95%, p value = 0.010), while for attitude scores, being administrative employee as compared to other employees was found to have negative attitude towards AI (Beta = 0.049, 95%, p value = 0.03).

### **Conclusion:**

Final findings of our study reveals that the level of knowledge and awareness for AI among health workers in Afghanistan is limited and it is necessary for health system policymakers to consider sustainable training programs to raise the level of awareness of health workers.

## **Enhancing the awareness of policymakers about Non-Communicable Diseases tsunami in Afghanistan: A Health in All Policy Dialogue**

*Authors: Jamalliden Mudafi<sup>1</sup>, Khwaja Mir Islam Saeed<sup>2,3</sup>, Taj Malook Samim<sup>1</sup>, Jawadullah Arb Zai<sup>3</sup>*

### **Background:**

Noncommunicable diseases (NCDs) are the leading cause of morbidity and mortality worldwide. In Afghanistan, the burden of NCDs is increasing due to demographic transitions, unhealthy lifestyle behaviors, and limited health system capacity. Despite growing awareness, multisectoral coordination and policy engagement remain insufficient. This implementation research aimed to strengthen the awareness and involvement of Afghan policymakers in addressing the NCD burden using a Health in All Policies (HiAP) framework.

### **Methods:**

A descriptive implementation research study was conducted in Kabul in March 2024. Twenty-eight senior policymakers representing nine sectors participated. Data was collected through structured group discussions, role-mapping exercises, and evaluation forms. Qualitative data were analyzed using thematic content analysis, and quantitative responses were summarized using descriptive statistics. Ethical approval was obtained from the Ministry of Public Health (Ref: MoPH/IRB/A-8-24-446).

### **Results:**

More than 85% of participants reported improved understanding of their respective roles in NCD prevention and control. Key outputs included the development of a sectoral role matrix and the identification of multisectoral challenges, such as governance deficits, inadequate funding, and weak intersectoral coordination. Summary tables present institutional roles and key implementation barriers. Participants also proposed actionable policy measures, including the establishment of a national NCD task force and the alignment of sectoral budgets with national health priorities.

### **Conclusion:**

This initiative demonstrated that targeted capacity building and inter-ministerial collaboration can improve policymaker readiness to address the growing NCD challenge in Afghanistan. The HiAP approach provides a viable and sustainable mechanism for integrating health considerations into national development strategies. Continued investment in such policy dialogues is critical for effective and equitable NCD prevention and control.

**Keywords:** Non-communicable diseases, Health in All Policies, Afghanistan, Policy Dialogue, Implementation Research, Capacity Building.

# From Baseline to Improvement: Results of a Follow-Up IPC Assessment in Public Hospitals Across Afghanistan

Mohammad Naeem Lakanwall<sup>1</sup>, Preet Katyara<sup>2</sup>, Rozina Roshan<sup>2</sup>, Syed Faisal Mahmood<sup>2</sup>, Mahmoud Hamouda<sup>3</sup>, Hareem Rauf<sup>2</sup>, Iman Hweidy<sup>3</sup>, Mohamed Sarhan<sup>3</sup>, Karima Mayar Amiri<sup>1</sup>  
<sup>1</sup>Ministry of Public Health, Afghanistan | <sup>2</sup>Aga Khan University | <sup>3</sup>World Health Organization

## Background:

Healthcare-associated infections (HAIs) pose a major public health challenge, especially in low-resource settings such as Afghanistan. The WHO Infection Prevention and Control Assessment Framework (IPCAF) is a globally recognized tool for evaluating hospital IPC capacity and identifying key areas for improvement. This study aimed to assess the impact of a national intervention package implemented after a baseline IPC evaluation in 15 Afghan hospitals.

## Methods:

A follow-up IPC assessment was conducted across 15 public hospitals in Afghanistan between February 2022 and June 2023, including 11 tertiary hospitals in Kabul, 3 regional hospitals in Herat, Kandahar, and Nangarhar, and 1 provincial hospital in Laghman. Using the WHO IPCAF tool, the study compared pre- and post-intervention IPC performance. Interventions included staff training, policy dissemination, IPC guideline translation and distribution, infrastructure support, and technical assistance from international consultants.

## Results:

All 15 hospitals showed some level of IPC improvement following intervention.

- COVID-19-specific IPC compliance rose from 32% to 62% (+30%).
- Waste and sharps management improved from 54% to 73% (+19%).
- Hand hygiene compliance increased from 41% to 64% (+23%).
- Appropriate PPE use rose from 40% to 71% (+31%).
- MDRO-specific IPC compliance improved from 3% to 19% (+16%).
- The highest-performing hospital demonstrated a 30% increase, while hospitals with lower baseline scores (<41%) showed the highest mean improvement (23.4%).

The greatest improvements were observed in policy dissemination (+50%) and infrastructure availability (+14%).

## Conclusion:

The follow-up assessment highlights significant gains in infrastructure and policy readiness for IPC in Afghanistan's public hospitals. However, translation of improved policy into routine clinical practice remains limited. Comprehensive strategies focusing on policy implementation, ongoing staff training, leadership engagement, and budget allocation are essential for sustaining IPC progress. Continued collaboration between the MoPH, WHO, and local partners is vital to advance patient safety and control HAIs in fragile healthcare systems.

# **Impact of Tele ICU Services in the Rural Healthcare Setting of Gilgit Baltistan and Chitral, Pakistan**

*Author: Mehnaz Hameed*

*Co Authors: Imtiaz Hussain, Ariba Jamal and Kanwal Mohammad*

## **Introduction:**

The Aga Khan University Hospital (AKUH) Karachi in partnership with Aga Khan Health Service Pakistan (AKHS, P) launched the Tele-ICU services in July 2020 to overcome the critical need of ICU due to Covid-19 pandemic. The initiative is continued and has now become part of our routine ICU services. AKHSP's Tele-ICU service has become an indispensable lifeline, significantly improving the caliber and accessibility of critical care services.

## **Objective:**

To explore the effectiveness of Tele-ICU in the resource constraint and remote healthcare setting of GB and Chitral.

## **Methods:**

Data was collected using the existing record of patients in the HMIS system focusing on the number of patients received care through tele-ICU consultations. Capacity building of staff is evidenced by ongoing improvement in communication through whats app, patients notes and improvement in patient care.

## **Findings:**

The findings revealed that the Tele-ICU program in Gilgit Baltistan and Chitral remained a successful model of care for critical patients. The data shows that from January 2024 to July 2025; 142 teleconsultations were conducted. These services were utilized by 72 individual patients out of which 36 had multiple teleconsultations. It helped a lot in timely referrals of patients to tertiary care who needed interventions.

The service enhanced access to specialized care as well as remained a cost-effective strategy by reducing the need for patient transfers, optimizing resource utilization, and preventing adverse events. It is the source of continuous staff education as continuous connection of doctors and nurses with the tertiary setups helps in upgrading their knowledge and skills.

## **Conclusion:**

AKHSP's Tele ICU services have significantly improved the delivery of critical care in Gilgit and Chitral by enhancing access to specialized care, filling in resource shortages, increasing the capability of healthcare professionals. These services, which were first introduced in response to the COVID-19 pandemic, are still in operation.

# **Non-Prescription Antibiotic Use in Kabul: Prevalence, Determinants, and Implications for Antimicrobial Resistance**

*Author: Dr. Abdul Salam Dost*

## **Background:**

Antimicrobial resistance (AMR) is a growing global health challenge, fueled in part by widespread misuse of antibiotics without prescription. In Afghanistan, weak health regulations and limited access to healthcare heighten the risk of inappropriate antibiotic use.

## **Objectives:**

To determine the prevalence, patterns, and determinants of non-prescription antibiotic use among residents of Kabul.

## **Methodology:**

A community-based cross-sectional survey was conducted among 386 respondents using a structured questionnaire assessing sociodemographic characteristics, antibiotic use practices, and awareness of AMR. Data were analyzed using descriptive statistics, chi-square tests, and penalized logistic regression.

## **Results:**

Overall, 86.8% of respondents reported using antibiotics without a prescription. The most commonly used were Amoxicillin/Augmentin (47.3%) and Azithromycin (33.0%), primarily for cold/flu (44.4%), cough (22.3%), and fever (19.7%). Bivariate analysis showed a significant association between age and self-medication ( $p = 0.036$ ). Multivariable regression indicated that perceptions of antibiotic safety, lower trust in healthcare providers, and limited knowledge significantly increased the likelihood of non-prescription use, while higher knowledge scores were protective. Awareness of AMR was modest: 54.5% had heard of it, but less than half correctly identified its meaning.

## **Conclusion:**

Non-prescription antibiotic use is alarmingly prevalent in Kabul, driven by misconceptions about safety, gaps in knowledge, and weak trust in healthcare providers. These findings highlight the urgent need for public education campaigns, improved provider–patient relationships, and stricter enforcement of regulations on antibiotic sales to curb inappropriate use and mitigate the growing threat of AMR in Afghanistan.

## **Assessment of Pharmaceutical Storage Practices in Afghanistan’s BPHS and EPHS Health Facilities**

*Author: Fazelrabie Hanifi*

*Pharmaceutical Quality Assurance Consultant, UNICEF*

### **Background:**

Proper pharmaceutical storage (PSP) is essential for ensuring the quality, efficacy, and safety of medicines. In Afghanistan, weak infrastructure, temperature extremes, limited staffing, and supply chain issues significantly impact storage practices in health facilities operating under the Basic Package of Health Services (BPHS) and Essential Package of Health Services (EPHS).

### **Objective:**

This study aimed to assess the pharmaceutical storage practices across BPHS and EPHS facilities in Afghanistan, evaluating adherence to international standards and identifying key gaps that impact drug safety and effectiveness.

### **Methodology:**

This study employed a three-month cross-sectional design using qualitative methods, including interviews and structured observations, to assess pharmaceutical storage practices in health facilities across Afghanistan. Facilities were selected through a stratified random sampling approach across all 34 provinces, ensuring representation of different types of facilities. Sampling was based on the proportional availability of health facilities in each province, and random selection techniques were applied to minimize bias. The sample size of 331 health facilities was determined using Cochran’s formula. Data collection tools were adapted from the WHO Operational Package for the Assessment of Pharmaceutical Situations. A structured checklist, aligned with WHO standards, was used to evaluate storage conditions. Data were gathered through structured observations and interviews and analyzed using descriptive and inferential statistics, including t-tests and ANOVA, to identify variations and key determinants of drug storage conditions.

### **Results:**

Significant variations were found in storage conditions across facility types. EPHS facilities (district, provincial, and regional hospitals) demonstrated strong compliance, with an average adherence of 94%, while BPHS facilities (Sub Health Centers and Basic Health Centers) scored lower, at 69% and 75%, respectively. Key challenges included lack of cold storage (only 14% of facilities had functional units), absence of pharmacists in many BPHS facilities, poor documentation of temperature monitoring, and failure to implement FEFO inventory systems. Only 34% of facilities-maintained room temperatures within the WHO-recommended range of 15–30°C, and pests were observed in 5% of the facilities.

### **Conclusion:**

Pharmaceutical storage practices in Afghanistan’s health facilities show critical disparities between BPHS and EPHS levels. Strengthening infrastructure, expanding cold chain systems, ensuring the presence of qualified pharmacy personnel, and implementing regular training are necessary steps to improve medicine safety and healthcare quality across the country.

**Keywords:** Afghanistan, pharmaceutical storage, BPHS, EPHS, cold chain, FEFO, infrastructure, pharmacist availability, medicine safety.

## **Assessment of the Quality of physical rehabilitation services at Secondary and tertiary health facilities in Kabul, Afghanistan: A mixed method study.**

*Author: Dr. Mohammad Kabir Gwahari, Dr. Narjis Rizvi, Dr. Nadeem Ullah Khan, Dr. Nino Paichadze, Ms. Nousheen Pradhan*

### **Background:**

There are 2.4 billion people in need of rehabilitation care according to World Health Organization (WHO). Literature has shown that 74% of all years lived with disability (YLD) could benefit from rehabilitation. However, the quality of the rehabilitation services remains understudied, particularly in the LMICs. WHO defines quality as “the degree to which health services for individuals and populations increase the likelihood of desired health outcomes.” Rehabilitation services in Afghanistan are scarce, and there is a lack of research on the quality of these services. This study aimed to assess the quality of physical rehabilitation care through the perspectives of patients and health professionals in secondary and tertiary hospitals in Kabul, Afghanistan

### **Methods:**

This was a concurrent mixed-methods study employing the Donabedian Model of Quality of Care as the conceptual framework. The study was conducted in 15 private and public hospitals in Kabul in November 2023. Participants included patients and physical rehabilitation professionals selected through universal sampling. However, due to the insufficiency of participants, data was collected from 64 health professionals. For the qualitative component, 7 health professionals and 7 patients were interviewed. Questionnaire and interview guides were developed based on the National Institute for Health and Care Excellence Guideline of UK and literature review. Quantitative data were analyzed using SPSS version 26. The mean and standard deviation for individual statements assessing structural, process, and outcome aspects of quality of care was calculated. Additionally, the average score was computed for all statements under structure, process, and outcome.

### **Results:**

The study included health professionals with a median work experience of 5 years, evenly distributed between private and public hospitals. Most professionals had postgraduate education (37%), followed by a diploma (33%) and a bachelor's degree (19%). Patients had an average age of 44.7 years, with 28% female and 72% male. The average mean score for statements on structural, process, and outcome quality was nearly 4 and above 4, indicating agreement among health professionals on the Likert Scale. They believed that facilities had sufficient resources, effective management, positive patient-provider interaction, existing guidelines, and patient satisfaction. However, qualitative data revealed that there were inadequate equipment and staff, inexistence of training and clinical guidelines, and a weak rehabilitation system. Patient satisfaction with services was lower compared to health professionals' assessments. Barriers to high-quality care include inadequate budget (47%), inadequate equipment (44%), insufficient staff (42%), lack of management commitment (34%), and lack of policies, guidelines, and standards (34%). Some professionals expressed lack of knowledge to improve care quality (14%).

### **Conclusion:**

In conclusion, this study assessed the quality of physical rehabilitation care in secondary and tertiary hospitals in Kabul, Afghanistan, from the perspectives of patients and health professionals. The findings indicate physical rehabilitation care faces inadequate equipment and staff, lack of training and clinical guidelines, and a weak rehabilitation system. Patient satisfaction with services was comparatively lower than health professionals' assessments. The findings of the study offer several policy recommendations to increasing investment in rehabilitation services, strengthening human resources and training, improving physical infrastructure, addressing policy restrictions in the referral system, developing clinical guidelines, and establishing quality improvement programs.

## **Transforming Maternal and Child Health Access in Fragile Contexts: An Innovative Model for Quality and Patient Safety at FMIC, Afghanistan**

*Authors: Anthony DUTEMPLE, Mohammad Zubair BEHZAD Affiliation: La Chaîne de l'Espoir, French Medical Institute for Mothers and Children (FMIC), Kabul, Afghanistan*

### **Background:**

Afghanistan's health system has deteriorated since 2021, with restrictions on female health workers, facility closures and mobility barriers reducing access to maternal and child health services. The maternal mortality ratio is among the highest globally at 638 deaths per 100,000 live births. Women and children, particularly in rural provinces, face the greatest barriers to timely and safe care. Objective: To examine the Women & Children's House as a holistic, quality-enabling access model that combines accommodation, psychosocial support and referral pathways to specialized services, and to explore its potential for replication in fragile contexts. Methodology: A retrospective mixed-methods study (Jan 2024–Jun 2025) included.

### **Quantitative analysis:**

Referral and service utilization data for 1,869 patients from 34 provinces. • Qualitative interviews: 894 patients and 14 female staff, exploring care-seeking barriers and patient experiences. • Geospatial mapping: Visualization of patient origins to assess inequities.

### **Results:**

The programme led by La Chaîne enabled 1,093 life-saving surgeries, including 39 pediatric cardiac and 54 complex gynecological cases. Sixty-three percent of patients came from remote provinces with inadequate health infrastructure. Families noted that the House offered a supportive setting that eased mobility barriers and ensured safe access to care. Psychosocial sessions reduced anxiety and improved families' understanding of treatment. Geospatial mapping showed high referrals from Takhar, but very limited access from Zabul and Nuristan.

### **Conclusion:**

The Women & Children's House demonstrates a transformative approach to maternal and child health in fragile contexts by integrating safe accommodation, psychosocial support and streamlined referral pathways. This holistic model enhances quality and patient safety by reducing delays, improving adherence to care and enabling timely life-saving interventions for women and children from remote and underserved areas. Scaling through decentralized satellite houses, community health worker linkages and low-literacy digital tools offers a mean to sustain impact, strengthen the health system and expand access to quality care across Afghanistan's most vulnerable populations.



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# Digital Engagement in Health Communication: A Comparative Analysis of FMIC's Social Media Platforms

Zhala Hayeri<sup>1</sup>, Zameer Sultani<sup>1</sup>, Roman Nabizada<sup>1</sup>

## Background:

Social media has become an indispensable tool for hospitals and healthcare institutions to extend patient education, promote preventive care, and build trust in health services. Hospitals increasingly use digital platforms to raise awareness about medical services, highlight success stories, and mobilize communities during health campaigns. While evidence from high-income countries is extensive, there is limited research from low- and middle-income settings. This study examines how the French Medical Institute for Mothers and Children (FMIC) in Afghanistan leverages Facebook, Instagram, and LinkedIn to support its mission of improving maternal, child, and community health through digital engagement.

## Objective:

The objective of this study is to evaluate FMIC's multi-platform digital presence and determine how various social media channels contribute to healthcare communication goals, including patient outreach, health awareness campaigns, and professional networking.

## Methods:

A retrospective analysis of FMIC's official Facebook, Instagram, and LinkedIn metrics was conducted between January and July 2025. Indicators included reach, views, interactions (likes, comments, shares), new followers, link clicks, and visits. Patterns were compared across platforms in line with international studies on hospital social media strategies. Special attention was given to campaign-based content, such as World Brain Day, maternal and child health awareness, and emergency service promotion.

## Results:

**Facebook:** 6.8 million reach, 9.7 million views, and 91,000+ interactions (~93% of total), confirming its role as FMIC's strongest channel for patient education, health awareness campaigns, and service updates. **Instagram:** 330,000 views, 4,200 interactions (~4%), and 761 new followers. With 67% of global users aged 18–34, Instagram serves as a key platform for engaging youth in preventive health messaging and lifestyle-related awareness. **LinkedIn:** Posts averaged ~1,100 impressions, with top posts reaching 414 engagements (~3%), positioning it as an important tool for professional networking, academic visibility, and connecting with the global health community.

## Conclusions:

FMIC's digital strategy demonstrates the complementary role of social media platforms in healthcare communication. Facebook is most effective for large-scale outreach and community health campaigns, Instagram engages younger audiences through visual storytelling on preventive care and healthy living, while LinkedIn strengthens FMIC's professional reputation and fosters knowledge exchange in the medical sector. In line with international hospital-based research, these findings highlight how social media can enhance patient education, strengthen trust, and expand the impact of healthcare institutions in resource-limited contexts.

**Keywords:** Health communication; Digital engagement; social media; Facebook; Instagram; LinkedIn; Public health outreach; Afghanistan'

## **The impact of delay in HIV diagnosis on patient survival: analysis of HIV infection trends from 2007 to 2023**

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### **Background:**

HIV disease is one of the major public health challenges and its early diagnosis and timely management play a vital role in reducing mortality. This study examines factors affecting the mortality of HIV patients and the effect of delay in diagnosis on survival.

### **Methods:**

In this retrospective cohort study, data from the ART Center of Koppal District Hospital, India, from April 2007 to August 2023 were used. Of the 11,799 patients, 8,092 with complete data were included in the final analysis. Demographic and clinical variables including age, gender, HIV status, treatment, laboratory parameters, TB infection and survival were investigated. Delayed diagnosis was defined as CD4  $\leq$  350. Statistical analyzes were performed with Cox regression and survival curves (Kaplan-Meier).

### **Results:**

Out of 8092 patients, 5897 (72.8%) had delayed diagnosis. The average survival time for patients with delay was 61.55 months and without delay was 84.09 months. Delay in diagnosis increases the risk of death with HR 3.01 (95% CI: 2.67–3.40) in univariate analysis and HR 1.70 (95% CI: 1.48–1.96) in multivariate analysis. TS/TG patients had a higher risk of death than women with a HR of 1.64 (95% CI: 1.52–1.78) and patients over 45 with a HR of 2.17 (95% CI: 1.94–2.43) compared to those under 30. AIDS stage patients had a higher risk of death with HR 2.54 (95% CI: 2.34–2.75) and TB patients with HR 1.43 (95% CI: 1.31–1.56).

### **Conclusion:**

Delay in diagnosis, age, disease stage and the presence of TB are important factors of mortality in patients with HIV. Early diagnosis and timely management of the disease can reduce the risk of death and increase the life expectancy of patients. Programs to increase awareness and access to diagnostic and treatment services should be strengthened.

# Detection of Recurrent Chromosomal Abnormalities in Multiple Myeloma: A descriptive study

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## Introduction

Multiple myeloma (MM) is a malignant monoclonal plasma cell proliferation with a wide genetic heterogeneity. It is characterized by plasmacytosis, paraprotein production, bone lesions, hypercalcemia, susceptibility to infections, and renal impairment. Cytogenetics is an important prognostic factor of MM but the information is limited due to the malignant cells which have a low spontaneous proliferative activity. With the advent of fluorescence in situ hybridization (FISH) more abnormalities can be identified as the method is more sensitive and can be applied on the interphase and metaphase cells.

## Objectives

To identify chromosomal abnormalities using karyotyping and interphase fluorescence in situ hybridisation (iFISH) analysis in MM. to determine the most reliable cytogenetic analysis for detection of the abnormalities in MM.

## Methods:

Results of karyotype and iFISH of MM cases from January 2011-July 2021 were reviewed and included in this study. The probes (Vysis, USA) used for iFISH were IGH break apart, D13S319/13q34 and TP53/CEP17 which can detect rearrangement/deletion/amplification in chromosomes 14q32, 13q14.3 and 13q34, and deletion 17, 17p13.1 respectively.

## Results:

13q34 deletions were noted in 9 cases, 14q32 rearrangements were noted in 5 cases, 17q deletion was detected in 1 case, 14q32 along with 13q34 were together in one patient, 14q32 and 17q deletion were together in one patient, hyper diploidy was noted in one patient and hyper diploidy with 17q abnormalities were together in only one case.

## Conclusion:

This study highlights the importance of diagnostic cytogenetics in the identification of chromosomal rearrangements in MM. Similar to the previous reports, a high rate of chromosomal abnormalities were detected in this study (72%) using karyotyping and iFISH. Currently, MM patients are grouped into:non-hyperdiploid and hyperdiploid . In the non-hyper diploid group, the most common aberration is IGH with the 5 recurrent translocation partners (on chromosomes 4, 6, 11, 16, or 20). Prior studies have shown that abnormalities such as t(4;14), t(14;16), t(14;20), and del 17p predict for significantly shortened survival in patients with newly diagnosed MM, whereas hyperdiploidy has been associated with better survival.

# **Use of Social Media for Accessing Health Information Among Healthcare Personnel at Ali Abad Teaching Hospital, Kabul, Afghanistan (Cross-Sectional Study) (2025)**

*Dr. Sayed Abdullah Hashimi*

## **Introduction:**

Social media has become one of the most important tools for sharing health information and professional communication among healthcare personnel. These platforms can play a significant role in enhancing knowledge, professional networking, and the quality of healthcare services. Despite the rapid global increase in the use of social media, limited research has been conducted in Afghanistan on how healthcare personnel use these platforms to obtain health information. Ali Abad Teaching Hospital, as one of the main educational and healthcare centers in Kabul, provides an appropriate setting for such an investigation.

## **Methodology:**

This was a descriptive cross-sectional study conducted in 2025 (1404 Hijri-Shamsi) among 230 healthcare personnel of Ali Abad Teaching Hospital. The sample size was determined using proportional stratified sampling. Data were collected using a structured questionnaire with 25 questions covering three sections (demographic characteristics, usage patterns, and behaviors related to health information seeking). Data were analyzed using SPSS software with descriptive and analytical statistics.

## **Objectives:**

The general objective was to assess the extent of social media use among healthcare personnel at Ali Abad Hospital for obtaining health information. The specific objectives included identifying demographic characteristics, usage patterns, and behaviors associated with health information-seeking.

## **Results:**

The findings revealed that the majority of participants (99.1%) were social media users, and 95.7% specifically used these platforms to obtain health information. Most respondents were young, with 78.3% aged 20–30 years and a mean age of 28.37 years. Males accounted for 67.8% of the participants, while females comprised 32.2%. The most frequently used platforms for health information were Google (65.7%) and YouTube (43.9%). The most commonly searched health information included medications and their usage (48.7%), disease symptoms (40.4%), and diagnosis (34.8%). A large proportion of respondents (81.7%) demonstrated good usage patterns, and 93.5% reported targeted behavior in using social media for health information.

## **Conclusion:**

This study demonstrated that social media has become an integral part of the professional lives of healthcare personnel at Ali Abad Teaching Hospital. The widespread use of Google and YouTube indicates a preference for quick and visual access to health information. The results highlight the potential of social media as a key tool for professional education, continuous learning, and improving the quality of healthcare services. However, there is a need to establish clear policies and guidelines to ensure the ethical and effective use of these platforms.

**Keywords:** Social Media, Healthcare Personnel, Health Information, Afghanistan, Ali Abad Teaching Hospital

## **Evaluation of The Surveillance System at AL Mansoura District in Aden Governorate, Yemen, During Period August – September 2024.**

*Dr. Iman Mohammed Omer Bawazeer<sup>1</sup>, Dr. Magdi Aldaeri<sup>1</sup>, Professor Dr. Abdullall bin Gouth<sup>2</sup>.*

### **Background:**

Effective communicable disease control depends on effective surveillance system, it is a key part of public health decision-making in all countries. Yemeni health surveillance systems become overwhelmed to meet needs of a humanitarian emergency. Periodic assessments of a surveillance system enable it to remain efficient. This is the first study about evaluation of district surveillance system in Aden Governorate. To assess the usefulness and other attributes of the surveillance system in AL Mansoura district.

### **Methodology:**

A descriptive study was conducted to evaluate the surveillance system at AL Mansoura district, Aden, from August to September 2024 based on the updated CDC guideline. All the twenty reported health facilities at AL Mansoura district included in the study. Semi-structural questionnaire by face-to-face interview to all members of RRT, and twenty focal points and other twenty health workers.

### **Results:**

In this study, the system was useful and obtained all its objectives. The flexibility was excellent (100%) but the stability was poor (52%). The system was simple (82%) and acceptable (74%) by health staff. The completeness and timeliness were excellent. The overall performance of the system was 83% ranked good.

### **Conclusion:**

The health surveillance at Al Mansoura district was useful, flexible and simple, but depend completely on agency fund, although the acceptability was average the completeness and timeliness were excellent. AL Mansoura district health surveillance system needs more improvement by provide feedback and regular training to health facilities workers, and strength the financial support of surveillance system by governmental source.

### **Keywords:**

Health surveillance, eIDeWS program, Usefulness, Timeliness, Completeness.

## **Factors Associated with Utilization of Health Services among Middle-Aged Individuals in Tehran City**

*Khadijeh Yarifard<sup>1</sup>, Zhaleh Abdi<sup>2</sup>, Ebrahim Jaafari-pooyan<sup>3</sup>*

### **Introduction:**

Utilizing health services is paramount within the healthcare system. Understanding the influential factors affecting the utilization of health services can help identify potential issues and assist policymakers in developing appropriate interventions. Therefore, the aim of this study was to identify the influential factors associated with the utilization of health services among middle-aged individuals in Tehran city.

### **Methodology:**

In this descriptive-analytical study ... individuals from middle-aged Tehranians were surveyed using a researcher-made questionnaire to assess the utilization of health services. Data analysis was conducted using Binary Logistic Regression (BLR) model and Univariate analysis.

### **Results:**

The results indicate that the likelihood of utilizing healthcare services is influenced by predisposing factors such as gender (female), marital status, employment status, not being the head of the household, as well as enabling factors including health insurance coverage, access to healthcare facilities, awareness of health-related issues, and preventive services. In factors related to needs, individuals with specific illnesses and those with chronic diseases showed a statistically significant association, with these individuals having the highest opportunity to benefit from healthcare services. No statistically significant relationship was observed in other factors and utilization.

### **Conclusion:**

The factors influencing the utilization of healthcare services among middle-aged individuals were identified into three categories: predisposing, enabling, and needs-related factors, within the Andersen Behavioral Model of Health Services Utilization. It is suggested that these factors be considered in health policy for middle-aged individuals. Additionally, to improve service utilization in this group, attention should be paid not only to increasing access and awareness but also to the needs and requests of individuals.

**Keywords:** Utilization, Middle-aged, Health Services, Tehran.

## **Risk Factors Associated with Pemphigus: A Cross-Sectional Study (1403-1404) at Ibni Sina Hospital Dermatology Department**

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*<sup>1</sup>Ibni Sina Hospital, Kabul Afghanistan*

### **Background:**

Pemphigus is a rare, chronic, autoimmune blistering disorder of the skin and mucous membranes, associated with significant morbidity and mortality if untreated. Its global incidence ranges from 0.5 to 3.2 per 100,000 population, with higher prevalence in certain regions and ethnic groups. Despite therapeutic advances, delayed diagnosis and limited epidemiological data in low- and middle-income countries, including Afghanistan, remain major challenges. Identifying demographic and clinical patterns is essential to improve patient outcomes.

### **Methods:**

This cross-sectional study was conducted at Ibni Sina Hospital between 1403(Sawr)- and 1404(Sawr). Thirty-two hospitalized patients with clinically and histopathologically confirmed severe pemphigus were enrolled. Sociodemographic, clinical, and comorbidity data were collected and analyzed using SPSS v25. Descriptive statistics (frequencies, percentages, means, and standard deviations) summarized patient characteristics.

### **Results:**

The mean age was  $37.2 \pm 13.0$  years (range: 22–65), with a mean BMI of  $24.0 \pm 5.4$  kg/m<sup>2</sup> (range: 16–36). Females comprised 62.5% of cases. Most patients were from rural areas (81.3%), with 96.9% belonging to poor socioeconomic backgrounds. Ethnic distribution was Tajik (56.3%), Pashtun (34.4%), Hazara (6.3%), and Uzbek (3.1%). Comorbidities included diabetes mellitus (15.6%) and infectious diseases (15.6%), while no cases of autoimmune disorders or malignancies were observed. Only 3.1% reported vaccination history or pregnancy. All cases required hospitalization due to disease severity.

### **Conclusion:**

Pemphigus in Afghanistan appears to predominantly affect females, rural residents, and individuals of low socioeconomic status, with a younger mean age of onset compared to international reports. Diabetes and infections were notable comorbidities that may complicate management. These findings highlight the need for early recognition and timely referral. We strongly recommend raising awareness among healthcare providers, strengthening dermatology referral networks, and establishing a national pemphigus registry to guide prevention strategies, optimize treatment, and reduce disease burden.

**Keywords:** Pemphigus, Autoimmune blistering disorder, Risk factors, Afghanistan, Socioeconomic status, Dermatology

# Knowledge, Attitude and Practices of Breastfeeding among mothers visiting Indira Gandhi Hospital, Kabul, Afghanistan: a cross-sectional study

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## Background:

Breastfeeding is a cost-effective public health strategy. Early Initiation of Breastfeeding (EIBf) & Exclusive Breastfeeding (EBf) for the first six months of age have many short- and long-term benefits for both the mother and infant. The purpose of the study was to assess knowledge, attitudes, and practices toward breastfeeding among lactating mothers visiting Indira Gandhi Hospital.

## Method:

This was a descriptive, hospital-based cross-sectional study of lactating mothers who had a child between 0 and 24 months of age. Convenience sampling was used to recruit mothers from the outpatient department of Indira Gandhi hospital between November 2022–2023. A pre-tested structured questionnaire was administered. Data were analysed using descriptive statistics logistic regression model to examine associations between EIBF and EBF with socio-demographic and childbirth characteristics of women.

## Results:

Overall, all 422 mothers with their children participated in this study. Nearly 274(64.93%) of the women knew that the appropriate time for feeding colostrum is immediately after the birth (1st hour). Also, 52 (12.32%) mothers strongly agreed to give breast milk within one hour of delivery. 318(75.36%) of lactating mothers feed colostrum within the first hours of delivery. After adjusting for other variables, maternal age <30 years, maternal literacy, fewer than three children, female infant, and vaginal delivery were significantly associated with early initiation of breastfeeding. Mothers with fewer children were 1.9 times more likely to exclusively breastfeed.

## Discussion:

This study reveals high awareness of colostrum (99.5%) among mothers at Indira Gandhi Hospital, but a lower rate of early initiation of breastfeeding (62%). Multivariable analysis revealed that early initiation of breastfeeding (EIBF) was significantly associated with vaginal delivery, maternal literacy, younger age, and having a female infant, while lower parity (<3 children) was linked to reduced EIBF knowledge and practice. Exclusive breastfeeding (EBF) was more common among mothers with fewer children, but surprisingly less likely among younger and literate mothers—possibly due to work or lifestyle constraints. A major barrier was perceived insufficient milk supply, leading to early bottle feeding.

## Conclusion:

Despite good knowledge of breastfeeding benefits, early initiation and exclusive breastfeeding remain suboptimal. Barriers—such as cesarean delivery, lower maternal experience, and perceived milk insufficiency—limit optimal practices. Interventions should focus on strengthening health worker-led support during antenatal and postnatal care, especially for cesarean deliveries and mothers with limited family support to improve breastfeeding outcomes. Establishing lactation services and enhancing family engagement are critical to improving breastfeeding practices. Future studies using advanced analyses are recommended to identify key predictors and evaluate targeted interventions.

**Keywords:** Breastfeeding; Knowledge, Attitude, Practice, Indra Gandhi

## **Descriptive analysis of Typhoid fever outbreak in Kafshan village, Shinwari district of Parwan Province, September 2024**

Ahmad Tawfiq Saleh<sup>1</sup>, Mir Salamuddin Hakim<sup>2</sup>, Khwaja Mir Islam Saeed<sup>3</sup>, Shoaib Naeem<sup>3</sup>, Mohebullah shabab<sup>4</sup>

### **Introduction:**

Typhoid fever is a serious systemic infection caused by *Salmonella enterica* serotype Typhi, which is primarily transmitted through contaminated food and water. The disease remains a significant public health concern in many low- and middle-income countries, including Afghanistan. This study was conducted to describe a typhoid fever outbreak in Parwan province, investigate its likely source, and provide recommendations for effective prevention and control strategies.

### **Methods:**

A descriptive study was undertaken using secondary data. The investigation commenced on 24 September 2024 in Shinwari district of Parwan province. Outbreak response activities were conducted by the National Disease Surveillance and Response (NDSR) team in collaboration with partner non-governmental organizations. Data was entered, cleaned, and analyzed using Microsoft Excel 2016 and Epi Info version 7.2.1.

### **Results:**

The affected village had an estimated population of 2,550, among whom 43 suspected cases were identified. Of these, 25 (58%) were female, and 10 (23%) occurred in the 11–15-year age group. Six stool, three blood, and three urine specimens were collected; one urine culture yielded *Salmonella Typhi* on 26 September 2024, confirming the outbreak. The most frequently reported symptoms included high fever (100%), constipation (100%), abdominal pain (95%), and headache (90%). The epidemic curve demonstrated a common-source pattern, with a peak between 18–19 September 2024. Additional cases were reported in neighboring districts, including Seyagerd and Salang, suggesting limited spread beyond the primary cluster.

### **Conclusion:**

The findings confirmed a typhoid fever outbreak in Kafshan village, most likely attributable to contaminated drinking water, with a greater proportion of cases observed among females. Strengthening water, sanitation, and hygiene (WASH) interventions, coupled with enhanced community awareness regarding food and water safety, is essential to mitigate the risk of future outbreaks.

**Keywords:** Typhoid fever; Outbreak; Parwan; Afghanistan

## **Diagnostic delay and its predictors among TB patients in Kandahar, Afghanistan: A cross-sectional analytical study**

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### **Background:**

A delay in tuberculosis (TB) diagnosis leads to late anti-TB treatment initiation, which is associated with worse treatment outcomes and increased TB transmission. Despite its recognized negative consequences, diagnostic delay among TB patients remains prevalent in many low- and middle-income countries (LMICs), including Afghanistan, where evidence on its predictors is limited.

### **Objectives:**

We aimed to evaluate diagnostic delay and its predictors among newly diagnosed TB patients attending healthcare facilities in Kandahar, Afghanistan.

### **Methods:**

A multi-center cross-sectional was conducted in Kandahar between February and May 2025. Newly diagnosed TB patients aged 18 years or older were randomly recruited from the TB care centers of six healthcare facilities. Delays in TB diagnosis encompassed both patient and healthcare system delays. The predictors of diagnostic delay were identified using a multivariable logistic regression model.

### **Results:**

The magnitude of prolonged patient and health system delays were 44% and 59.4%, respectively. Patients' low education level, extrapulmonary TB, longer distance to healthcare facility, and positive history of self-medication were significant predictors of both patient and health system delays.

### **Conclusion:**

Despite the well-established benefits of early TB diagnosis, this study revealed that delay in TB diagnosis is still a public health challenge in Kandahar province. Late presentation for TB care was a result of factors that relate to the patient's education, TB type, distance to healthcare facility, and history of self-medication. Therefore, focusing extra attention on these factors could potentially reduce diagnostic delays among TB patients in Afghanistan.

**Keywords:** Tuberculosis, TB, Delays, Diagnosis, Predictors, Afghanistan

## **Descriptive Measles Vaccine Coverage in Ghor, Afghanistan: A Descriptive Study, 2020-2022**

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### **Background:**

Measles remains a leading cause of childhood morbidity and mortality worldwide, despite increased vaccination efforts. This study aims to examine measles vaccine coverage in Ghor province from various aspects (person, place, and time).

### **Methods:**

This descriptive study analyzed measles vaccination coverage in Ghor from 2020 to 2022, using data from the DHIS-2 system. Coverage rates, as well as variations across districts and health centers, were calculated using Excel and Epi Info 7.

### **Results:**

A total of 33,173 individuals were vaccinated, with a coverage rate of 75%. The dropout rate was high at 18%, and seasonal variations significantly impacted coverage, with the lowest rate in winter (65%) due to road closures and limited access to health services. Coverage improved to 85% in spring. The vaccination rate rose from 73% in 2020 to 78% in 2022. Districts like Ferozkoh, Dollatyar, and Sagher achieved coverage above 80%, while others reported lower rates. Health centers in underserved areas without outreach vaccinators had lower coverage.

### **Conclusion:**

Although measles vaccination coverage has improved in Ghor, it remains below the target. To further enhance coverage, strengthening mobile vaccination services, expanding health infrastructure, and increasing public awareness are essential strategies.

**Keywords:** Vaccine, Measles, Coverage, Ghor, Afghanistan

## **Correlation of Mother’s Knowledge on Child Nutrition, feeding practice, and Nutritional Status of Children in Kabul, Afghanistan**

*Authors: Ayanbek Azizi*

### **Background:**

Malnutrition among children under five remains a critical public health issue, particularly in low-resource settings. Maternal knowledge and attitudes toward child nutrition play a vital role in shaping feeding practices and influencing child health outcomes.

### **Objective:**

This study aimed to examine the association between maternal knowledge and attitudes regarding child nutrition and the nutritional status of children under five years old at Maiwand Hospital, Kabul.

### **Methods:**

A cross-sectional correlational study was conducted involving 203 mothers of children under the age of five. Data were gathered using a validated, structured questionnaire comprising sections on demographic information, maternal knowledge, attitudes, and feeding practices. Statistical analysis was performed using SPSS version 26, with significance set at  $p < 0.05$ .

### **Results:**

The majority of mothers exhibited moderate levels of knowledge and attitudes toward child nutrition, with feeding practices also categorized predominantly as moderate. A statistically significant association was found between maternal knowledge and attitudes and the nutritional status of their children ( $p < 0.001$ ). Children of mothers with higher knowledge and more positive attitudes were more likely to exhibit optimal nutritional outcomes.

### **Conclusion:**

The study highlights the critical role of maternal knowledge and attitudes in determining the nutritional status of children under five. Strengthening maternal education through targeted interventions in healthcare settings—particularly in low-literacy and resource-constrained environments—may contribute significantly to reducing childhood malnutrition.

**Keywords:** Maternal knowledge, attitudes, feeding practices, nutritional status, under-five children, Maiwand Hospital

## **Fine-Needle Aspiration Cytology with Cyto-Histopathological Correlation of Breast Carcinoma in a Tertiary Care Center in Kabul Afghanistan**

*Nasrin Hussaini*

### **Background:**

Breast lesions are among the most common health concerns in women. Fine-Needle Aspiration Cytology (FNAC) is a widely used, rapid, and minimally invasive diagnostic tool that helps differentiate benign from malignant breast lesions and aids in further management decisions. Breast (FNAC) results are typically reported using **cytological classification** systems, which help to categorize the lesions based on their cellular characteristics. The most common methods or systems for reporting breast FNAC results.

### **Objective:**

To evaluate the cytological findings of breast lesions using FNAC in 102 cases and to determine the proportion of malignant, suspicious, and inflammatory/benign conditions.

### **Methods:**

A total of 102 patients presenting with palpable breast lumps were included in this study. FNAC smears were prepared, stained, and examined under light microscopy. The cases were categorized into three groups: malignant, suspicious for malignancy, and non-malignant (including inflammatory and benign lesions).

### **Results:**

Out of 102 breast cytology cases:

- 16 cases (15.7%) were positive for breast carcinoma,
- 10 cases (9.8%) were suspicious for malignancy,
- 26 cases (25.5%) were diagnosed as fibroadenoma,
- 26 cases (25.5%) were diagnosed as granulomatous mastitis, including tuberculosis,
- 5 cases (4.9%) were diagnosed as lipoma,

The remaining cases demonstrated various inflammatory changes.

### **Conclusion:**

FNAC is a valuable diagnostic tool for evaluating breast lesions, offering a high degree of accuracy in identifying malignant and suspicious cases. In this study, the majority of breast lesions were benign, with fibroadenoma and inflammatory changes being the most common. However, the significant proportion of malignant and suspicious cases underscores the importance of FNAC in the early detection and appropriate management of breast pathology.

## **The improvement of pain management through nursing care plan education and practice.**

### **Background:**

#### **Background:**

Effective pain management is fundamental to patient care in critical settings such as the Intensive Care Unit (ICU), Neonatal ICU (NICU), and Acute Care Settings (ACS). A pre-intervention assessment identified significant knowledge gaps among nursing staff, leading to potential variations in practice. This quality improvement project aimed to evaluate the efficacy of a structured educational intervention designed to address these deficiencies.

#### **Objective:**

To assess the impact of a focused educational program on improving nurses' knowledge regarding evidence-based pain management principles and nursing care plans in ICU, NICU, and ACS units.

#### **Methods:**

A pre-test/post-test study design was implemented. A pre-intervention questionnaire was administered to 40 nurses, revealing substantial baseline knowledge gaps. A targeted educational session was subsequently conducted, addressing these specific gaps. Following the intervention, a post-test using an identical questionnaire was administered to 40 nurses. Data from both phases were compared to measure knowledge improvement.

#### **Results:**

Comparative analysis demonstrated a dramatic and statistically significant improvement in nurses' knowledge across all assessed domains:

- Identification of analgesic drugs increased from 91.4% to 97.6%.
- Knowledge of the ideal post-treatment pain score (0-3) rose from 74.3% to 92.9%.
- Recognition of chest pain as a critical priority in ACS improved from 91.4% to 97.6%.
- Understanding the necessity of documenting time and pain level\*\* remained high but improved from 94.3% to 95.1%.
- Knowledge of the VAS scale endpoint (10=worst pain) increased from 94.3% to 97.6%.
- Understanding the need for regular, written documentation in ICU improved from 85.7% to 97.6%.
- Identifying goal setting as part of the nursing care plan improved from 88.6% to 95.1%.
- Crucially, identifying patient assessment (not notifying the doctor) as the first action for severe pain saw a massive leap from 51.4% to 85.4%.
- Recognizing the benefit of a standard care plan for accuracy of care surged from 74.3% to 92.7%.
- Knowing the correct frequency for pain assessment in ICU (every 4 hours) showed remarkable improvement from 60% to 97.6%.
- Identifying non-pharmacological interventions (ice pack) that nurses can initiate independently improved from 97.1% to 95.1% (already high, remained consistent).
- The most critical improvement was in understanding that a \*\*pain management care plan must be personalized, which skyrocketed from 68.6% to 92.7%.
- Identifying increased respiratory rate as a vital sign of pain improved from 71.4% to 73.2%.

#### **Conclusion:**

The pre-test audit successfully pinpointed critical and specific knowledge gaps among critical care nurses. The implemented, targeted educational intervention was overwhelmingly effective in bridging these gaps, as

evidenced by the profound improvement in post-test scores across virtually all measures. This study underscores the vital importance of continuous, data-driven education to standardize nursing practice, ensure the application of evidence-based, personalized pain management care plans, and ultimately significantly improve patient outcomes in high-acuity environments.

**Keywords:** Pain Management, Nursing Education, Nursing Care Plan, Pre-test-Post-test, Knowledge Assessment, Quality Improvement, ICU, NICU, Critical Care.

## **Client-Provider Ratio and Maternal Mortality in the obstetrics and gynecology Hospitals: A Multi-Site Demographic Survey in Kabul, Afghanistan**

*Authors: Najmussama Shefajo, Sheila Hares*

### **Introduction:**

The World Health Report 2006 highlighted a global health workforce crisis, projecting a shortage of 17 million health workers by 2030. Afghanistan faces one of the lowest health workforce densities in the Eastern Mediterranean Region, with only 4.6 doctors, nurses, and midwives per 10,000 people far below the critical threshold of 23 per 10,000. This shortage has become particularly severe in recent years, further exacerbated by insecurity, cultural and socio-economic barriers, and regulatory challenges, resulting in pronounced gender and geographic disparities in access to care. This study explores the association between client-provider ratios and maternal mortality rates (MMR) across major hospitals in Kabul, Afghanistan.

### **Methods:**

A multi-site demographic survey was conducted from January to March 2025 across both governmental and private obstetrics and gynecology hospitals in Kabul. Data on deliveries and maternal deaths were collected to evaluate healthcare service availability and the density of female healthcare providers. Regression analysis was used to assess the relationship between maternal mortality and client-provider ratios.

### **Results:**

A total 30,000 deliveries were recorded during the study period. The ratio of births to one midwife in the maternity department was 116:1. On average, there were 441 births per specialist of obstetrics and gynecology. Regression analysis demonstrated a significant inverse association between maternal deaths and the availability of healthcare providers, indicating that higher client-provider ratios correlate with increased maternal mortality risk.

### **Conclusion:**

This study highlights that high client-provider ratios in Kabul's obstetric and gynecological hospitals are closely linked with increased maternal mortality rates. Limited numbers of trained female healthcare providers remain a key challenge, partly influenced by ongoing barriers to education and professional training opportunities for girls and women. Strengthening the maternal health workforce, ensuring equitable distribution of skilled providers, and creating supportive pathways for women's education and medical training are essential steps toward improving maternal health outcomes in Afghanistan.

## **Knowledge, Attitude and Practice of Ali Abad Hospital's Staff Regarding Medical Waste Management**

*Habibullah Hussaini*

### **Background:**

Hospital wastes can be categorized as hazardous wastes due to their risks to the environment and human. Considering the fact that the hospitals staff are in direct contact with biomedical wastes, their knowledge and safe operation are important in waste management. Objective: The aim of this study was to determine the status of knowledge, attitude and practice of healthcare staff of Aliabad teaching hospital regarding biomedical waste management.

### **Methods:**

This was a descriptive cross-sectional study, and the participants were included in the study by convenience (non-probability) sampling method. Data collection was done using a pre-prepared questionnaire, data analysis was done using IBM SPSS version 26 software.

### **Results:**

150 people participated in this research. As a result of the data analysis, among the 150 participants, 25 (17%) had good knowledge, 105 (70%) had average knowledge, and 20 (13%) had poor knowledge about hospital waste. in the attitude section Among 150 participants, 14 (9.3%) people had a poor attitude, 103 (68.4%) people had an average attitude, and 33 (22.1%) people had a good attitude, and in the practice section, among the 150 participants, 9 (6%) people had good practice, 80 (53.3%) people had average practice and 61 (40.7%) people had poor practice. Based on Spearman's correlation coefficient, there is a significant relationship between knowledge and practice ( $P < 0.05$ ). too there is no relationship between practice and attitude ( $P > 0.05$ ).

### **Conclusion:**

In this research, there is a significant relationship between knowledge and practice and it shows that more knowledge is related to more practice and less knowledge is related to less practice among health workers. Passing training courses on waste management can increase the level of knowledge and practice of staff. Therefore, it is necessary for the management of hospitals to have good and continuous planning in line with the comprehensive development of waste management programs and to actively participate in the creation of waste management training courses.

**Keywords:** Knowledge, Attitude, Practice, Hospital waste Management

## **The Critical Role of Good Manufacturing Practices (GMP) in Enhancing Patient Safety and Ensuring Pharmaceutical Quality in Low-Resource Settings: Challenge and Strategic Recommendations**

*Mumtaz Rahimi*

### **Background:**

Good Manufacturing Practices (GMP) are a cornerstone of pharmaceutical quality and patient safety. In low-resource environments—where regulatory systems are often underdeveloped and access to healthcare is limited—strict adherence to GMP is especially important to prevent the spread of substandard or counterfeit medicines. Objective: This study explores how GMP contributes to improving patient safety and maintaining pharmaceutical quality in settings with limited resources. It also highlights the main challenges to implementation and offers practical, context-specific recommendations.

### **Methodology:**

A qualitative narrative review was carried out, drawing on peer-reviewed Papers, WHO guidelines, and regulatory data from low- and middle-income countries. To supplement and validate these findings, interviews were conducted with professionals in the pharmaceutical industry and regulatory authorities.

### **Results:**

Several major challenges were identified, including limited funding, a shortage of trained personnel, and weak regulatory enforcement. However, countries that have committed to implementing GMP standards have seen noticeable improvements in medicine quality and patient outcomes. Based on the findings, three key recommendations are proposed: 1. Strengthen regulatory systems through targeted investments and training. 2. Leverage digital tools—such as mobile inspections and electronic labeling—to streamline oversight. 3. Build stronger regional and international partnerships to share knowledge and resources.

### **Conclusion:**

GMP plays a vital role in protecting public health, especially in healthcare systems facing significant challenges. Addressing the obstacles to implementation requires coordinated action across sectors, sustained funding, and supportive policy frameworks. Encouragingly, some progress has already been made—for instance, four pharmaceutical factories in Afghanistan recently achieved GMP certification, marking a positive step forward. Adapting GMP approaches to local conditions can make a real difference in ensuring medicine safety and reducing patient risk.

**Keywords:** Good Manufacturing Practices, Patient Safety, Pharmaceutical Quality, Low-Resource Settings, Regulatory Challenges, Capacity Building

## **A Review of the frequency of Acute appendicitis in the general surgery ward at Ibni Sina specialized Hospital, Kabul, Afghanistan**

*Mujtaba Mushtaq*

### **Introduction:**

Acute appendicitis is the most frequent cause of emergency abdominal surgery worldwide and remains a major public health concern. Delay in diagnosis and treatment can lead to serious complications, including perforation and peritonitis. Despite its high global burden, limited epidemiological data are available in Afghanistan, underscoring the need for hospital-based studies. This study aimed to determine the prevalence and characteristics of acute appendicitis cases at Ibn Sina Specialty Hospital during the last six months of 1402.

### **Methods:**

A descriptive cross-sectional study was carried out using the census method. A total of 1,056 hospitalized patient files were reviewed, from which 166 confirmed cases of acute appendicitis was identified. Demographic, clinical, and diagnostic data were collected through a standardized checklist and analyzed using SPSS version 26.

### **Results:**

Among the 166 cases, 83% were classified as simple appendicitis and 17% as complicated appendicitis. The age group most affected was 18–24 years. Male patients represented 61.4% of cases, while 38.6% were female. Ultrasonography was the primary diagnostic tool used in 89.8% of patients, while CT scans were performed in 10.2%. Geographically, 50.6% of patients were residents of Kabul, with the remainder from other provinces. No significant association was observed between body mass index (BMI) and the occurrence of appendicitis.

### **Conclusion:**

This study highlights that acute appendicitis, particularly in its simple form, is highly prevalent among young adults in Kabul. The findings emphasize the central role of ultrasonography in diagnosis and the importance of timely surgical intervention to prevent complications. Expanding access to diagnostic imaging and strengthening early detection strategies may improve outcomes and reduce the burden of acute appendicitis in Afghanistan.

## **Mental Health Issues Among Hospital Staff in a Rural Setting**

*Imtiaz Hussain, Mehnaz Hameed, Kawal Mohammad and Ariba Jamal*

### **Introduction:**

Mental health issues such as stress, anxiety, and depression are increasingly common among hospital staff but often go unaddressed, especially in rural settings with limited resources. This study used the DASS-21 questionnaire to assess their prevalence among 30 healthcare workers, including doctors, nurses, and support staff, in rural hospitals. Results indicated moderate to severe psychological distress, driven by long working hours, understaffing, and lack of mental health support.

### **Method:**

A cross-sectional survey was conducted with 30 hospital staff in rural settings using the DASS-21 questionnaire. Participants were selected via convenience sampling. Data were collected anonymously and ethically analyzed to assess mental status.

### **Result:**

Among the 30-hospital staff surveyed, the majority demonstrated normal to mild levels of depression, anxiety, and stress as measured by the DASS-21 scale. Specifically, 60% of respondents reported scores within the normal range; 25% exhibited mild to moderate symptoms, while 15% presented with severe level in at least one domain. These findings suggest a moderate prevalence of psychological distress among healthcare professionals in rural settings, underscoring the importance of targeted mental health support and workplace interventions.

### **Conclusion:**

This study reveals that mental health issues such as depression, anxiety, and stress are prevalent among hospital staff in rural settings, largely due to high workloads, limited resources, and professional isolation. To address these challenges, regular mental health screenings, access to counselling services (including telehealth), stress management programs, and improved staffing support are essential. These interventions can enhance staff well-being and improve the quality of care in rural healthcare facilities.

# **Knowledge, Attitudes, and Practices Regarding Leishmaniasis Among Medical Students at Kabul University of Medical Sciences, 2025**

*Ahmadzia Muhammadi*

## **Background:**

Leishmaniasis is a vector-borne zoonotic disease prevalent in tropical and subtropical regions, posing a significant public health burden in Afghanistan. Limited knowledge, negative perceptions, and inadequate preventive practices can accelerate its transmission. This study aimed to assess the level of knowledge, attitudes, and practices (KAP) regarding leishmaniasis among medical students at Kabul University of Medical Sciences in 2025 and to explore associations with demographic factors.

## **Methods:**

A descriptive cross-sectional study was conducted among medical students (population: 2,001; sample: 323) using a multistage stratified random sampling approach. Data were collected via a culturally adapted, structured self-administered questionnaire. Statistical analysis was performed using SPSS, applying descriptive and inferential tests, with significance set at  $p < 0.05$ .

## **Results:**

Of 323 distributed questionnaires, 316 were valid for analysis. The majority of respondents (66.5%) were aged 21–23 years, and 32.9% were enrolled in general medicine. While 75.9% had heard of leishmaniasis, only 4.4% demonstrated good knowledge. Primary information sources were textbooks (73.3%) and social media (11.3%). Negative attitudes were observed in 68% of students, with only 32% showing positive perceptions. In practice, 9.8% reported a history of infection, and 57.2% would seek medical care if infected. Significant associations were found between KAP scores and residence, socioeconomic status, and field of study ( $p < 0.05$ ).

## **Conclusions:**

Overall, students' knowledge and attitudes toward leishmaniasis were suboptimal, and preventive practices were insufficient. These findings underscore the urgent need for targeted educational interventions, curriculum strengthening, and awareness programs to enhance students' competence in leishmaniasis prevention and control.

**Keywords:** Leishmaniasis, Knowledge, Attitudes, Practices, Medical students, Kabul University, Afghanistan

## **Cure Rate of Severe Acute Malnutrition Treatment Among Children Aged 6-59 Months Admitted to Daikundi Hospitals**

*Zaker Hussain Hussain Pour<sup>1</sup>, Mohammad Ebrahim Hoshmand<sup>2</sup>*

### **Background:**

Acute malnutrition is a critical health issue affecting children, particularly in low and middle-income countries. Severe Acute Malnutrition (SAM) is the primary reason for pediatric admissions and a major cause of mortality in many countries, including Afghanistan. This study aims to evaluate the treatment outcomes and recovery rates of SAM among children under five years of age.

### **Methods:**

A facility-based descriptive cross-sectional study was conducted by reviewing health records of SAM cases treated in 2022.

### **Results:**

Among the SAM cases, 46.4% were male, and 53.6% were female. The average weight at discharge was 8.4 kg, with an average length of stay of 70.37 days. Most children were admitted with wasting, while a small percentage presented with edema. Common signs and symptoms included appetite failure, vomiting, diarrhea, fever, and cough. Of the total cases, 75.9% were cured, 12.5% defaulted, 1.4% died, 3.7% were referred, and 6.5% did not respond to treatment.

### **Conclusion:**

The recovery, defaulter, and death rates meet the minimum standards set by the Sphere Project. However, the average weight gain is below national standards, and the length of stay exceeds recommendations, indicating the need for further improvements in the management of SAM cases among children under five years of age.

### **Keywords:**

treatment outcome, severe acute malnutrition, under five children

## **An overview of bladder pain syndrome patients at FMIC, Kabul, Afghanistan**

*Dr. Farzana Wali Jebran, Gulalai Wardak, MD, Dr. Zohal Hayati, MD*

### **Objective:**

To determine the demographic data and comorbid conditions of bladder pain syndrome patients.  
To evaluate the intravesical treatment effectiveness.

### **Introduction:**

Bladder pain syndrome is a chronic condition characterized by a persistent bladder-related pain significantly impacting patients' quality of life. Despite its prevalence, the etiology and pathophysiology of bladder pain syndrome remain poorly understood.

### **Methodology:**

This method employed a case series of 67 patients diagnosed with bladder pain syndrome according to established clinical criteria.

### **Results:**

Out of 67 patient files, the average age of the patients was 36.5 years, and the average duration of symptoms was 2.7 years. 16.41 % had cervical tenderness, 73.1% had insomnia, 94% of patients had sexual health problems, and intravesical treatment was done for 100%. Clinical improvement happened in 100%. Adverse reactions did not happen in any patients. 76% had irritable bowel syndrome. 56.7% had fibromyalgia. 82% had depression or anxiety. Urine culture was done for 58% and showed microorganisms in 25%.

### **Conclusion:**

Bladder pain syndrome remains a complex, multifactorial condition with a significant impact on the quality of life of females. Further research into its pathophysiology and targeted therapies is essential to improve diagnosis and management.

## **Medical Equipment Safety and Utilization at a Tertiary Care Hospital in Kabul**

*Gulpari Nazari |Abdullah Yousofzai, Eng. Kalaqsha, Munira Ramzi, Zulaikha Zai, Maqbula Sahar Mohammad Yasin, Wais Mohammad Qarani.*

### **Background:**

Hospitals are equipped with numerous equipment including medical and non-medical to ensure provision of safe and quality care for the patients. These equipment are mostly fragile; and extra precautions are required during handling. The incidents related to medical equipment breakage are common in the hospitals where safety measures are not considered. Therefore, we planned a quality improvement project to ensure availability of equipment safety measures in the hospital.

### **Aim:**

This project aimed to enhance the safety commonly used medical equipment.

### **Methodology:**

We used, PDSA cycle to guide this quality improvement project during 2024. Data were gathered from different sources including incidents reported to the hospital quality and patient safety department. A questionnaire was developed from the policies on the safety of medical equipment; and a pre and posttest was implied to determine staff knowledge. Problem identification, analysis, designing the interventions including resource availability and policy execution were the main domains of this project.

### **Result:**

Total 27 incidents; 20 during 2024 and 7 in the first half of 2025 were reported. The broken equipment was mainly syringe pumps (19). These breakages added (12000\$) loss to the institution. The main causes for these incidents were; mishandling, lack of staff training and use of low quality consumables. A pre and posttest was implied on 150 staff. The average score in pre-test was 65% while in post-test a significant improvement was recorded. As part of the interventions, CCTV cameras were installed in three locations where this medical equipment are stored. Furthermore, the head to toe assessment form was revised and hand over of the fragile medical equipment was added to ensure recording and accountability. Total 13 training sessions on safety of medical equipment were conducted and 150 staff were covered.

### **Conclusion/Recommendation:**

Staff awareness and proper monitoring of the equipment have significant impact on the safety of the equipment. It is recommended that the training sessions to be continued to be offered and staff to be sensitized for safe handling of the medical equipment.

# **Knowledge, Attitude, and Practice Toward Diabetes Mellitus Among Students of Kabul University of Medical Sciences: A Descriptive Cross-Sectional Study**

*Dr. Nematullah Afghan 1*

## **Background:**

Diabetes mellitus is a major global health concern, particularly in low-income countries like Afghanistan. Previous studies in Afghanistan have mainly focused on adults, with limited data on university students' knowledge, attitude, and practice (KAP) regarding diabetes. Given students' lifestyle risks such as poor diet, stress, and inactivity, assessing their awareness is crucial. This study aims to evaluate the knowledge, attitude, and practice of students at Kabul University of Medical Sciences regarding diabetes mellitus.

## **Methods:**

This descriptive cross-sectional study was conducted in 2025 among male students at Kabul University of Medical Sciences. A total of 340 participants were selected using systematic sampling, with the sample size calculated via EPI Info, accounting for a 5% non-response rate. Data analysis was performed using SPSS version 27, employing both descriptive and analytical statistics to examine relationships between variables.

## **Results:**

Out of 340 distributed questionnaires, 330 (97%) were fully completed and analyzed. Participants' ages ranged from 18 to 25 years, with a mean age of  $21 \pm 1.52$  years. Most respondents were single (89.3%) and had a moderate economic status (78.6%). The main sources of diabetes-related information were university (35.85%), internet (22%), and social media (20.75%). Regarding knowledge, 76.10% of students had good knowledge, 15.09% had moderate, and 8.81% had poor knowledge. Furthermore, 76.73% had a positive attitude toward diabetes, and 68.55% demonstrated good preventive practices. These findings reflect an acceptable level of awareness, attitude, and practice regarding diabetes mellitus among the students.

## **Conclusion:**

Although most students had good knowledge and a positive attitude toward diabetes, gaps remained in understanding key concepts and engaging in preventive behaviors. This indicates a need for targeted education to improve practical awareness and preventive practices.

**Keywords:** Diabetes Mellitus, Knowledge, Attitude, Practice, Students

# Investigating the Prevalence of low-birth-weight Infants in Kabul Hospital during 2023

Author: Arif Qasimi

## Background:

One of the most important aspects of health in any society is the infant mortality rate, which is significantly influenced by low birth weight. Children are the future assets of human society. According to various research findings, birth weight is one of the main determining factors for the survival and physical and mental growth of the child, and it serves as a reliable indicator of intrauterine growth. Despite medical advancements, low birth weight infants remain a major problem globally, especially in developing countries. Our beloved country, Afghanistan, is among them, which leads to the deaths of many infants. Study Objective: The study aims to investigate the prevalence of low-birth-weight infants in Kabul Hospital during the year 2023. Research

## Method:

This research was conducted through Cross-sectional method. Data was collected using a checklist from the existing patient files in Kabul Hospital.

## Results:

Out of 1406 newborns studied, 117 newborns (8.4 percent) had a weight of less than 2500 grams. Among the 117 newborns, 102 (87.2 percent) were low birth weight (LBW), 5 (4.3 percent) were very low birth weight (VLBW), and 10 (8.5 percent) were extremely low birth weight (ELBW). In terms of mothers age, the highest prevalence was in the range of 18-35 years at 6.5%. Concerning fetal age, the highest prevalence was among newborns with a gestational age of less than 37 weeks at 51.3%. By gender, the highest prevalence was among girls at 4.2%. Regarding maternal pregnancy, the highest prevalence resulted from single pregnancies at 8.3%. In terms of number of births, the highest prevalence was in mothers who had their first birth at 3.3%. By type of delivery, most births (90.06%) were through normal delivery (vaginal). Regarding mothers' residence, the highest prevalence was found among mothers living in urban areas.

## Conclusion:

The highest prevalence of low birth weight was among LBW, and the highest prevalence was found in newborns with a gestational age of less than 37 weeks. Girls are more prone to low weight compared to boys.

**Keywords:** Prevalence, low birth weight infants, very low birth weight infants, and extremely low birth weight infants.

# **Assessment of the Awareness and Attitudes of Kabul Medical University Students Regarding Artificial Intelligence (AI) (Cross-sectional Study) (2025)**

*Abdul Bayes Sadid*

## **Introduction:**

Artificial Intelligence (AI) is a technology that simulates human abilities such as learning, analysis, and decision-making, playing a vital role in transforming education and various sciences. It utilizes machines and algorithms capable of performing human tasks and has wide applications in areas like education, content creation, and disease diagnosis. The rapid growth of tools such as ChatGPT highlights AI's significant potential in enhancing learning quality and solving scientific problems.

## **Methodology:**

This study was conducted using a cross-sectional design and included the analysis of 318 valid questionnaires from male students aged mostly between 20 and 23 years. Data were collected through a structured questionnaire and analyzed using statistical tests such as Chi-square to examine the relationship between students' level of knowledge and attitudes towards AI with their field of study.

## **Objectives:**

The aim of this research was to examine the role of Artificial Intelligence in enhancing capacity and improving learning, while also assessing students' awareness of tools such as ChatGPT and evaluating their attitudes towards the application of this technology in the educational process among students of Kabul University of Medical Sciences.

## **Results:**

The study revealed that the sample consisted of 318 male students with an average age between 20 and 23 years, most of whom had a medium economic status and resided in dormitories. Knowledge about AI was reported to be very high, with 76.7% demonstrating excellent knowledge; however, the majority's attitude remained moderate (62.3%). Statistical analysis indicated a significant relationship between knowledge and attitude levels with the field of study, with clinical disciplines such as Medicine and Dentistry showing the highest levels of knowledge and positive attitudes. These findings emphasize the importance of targeted educational programs to improve attitudes and promote effective use of modern technologies.

## **Conclusion:**

The results showed that the study population included 318 male students with an average age between 20 and 23 years, with the highest proportion at age 23 (24.5%). Most students lived in dormitories, and the dominant economic status was medium (67.3%). Regarding AI awareness, 76.7% demonstrated excellent knowledge, while most participants showed a moderate attitude (62.3%). Statistical tests confirmed that clinical fields such as Medicine and Dentistry had the highest levels of knowledge and positive attitudes, highlighting the role of academic discipline in shaping awareness and perception of modern technologies.

Keywords: Artificial Intelligence, Machine Learning, Diseases Diagnose, Ethic in AI, Educational Transformation, Intelligent System.

## **Assessment of Oral Hygiene Practices and Associated Risk Factors among Dental Patients in Kabul, Afghanistan: A Cross-Sectional Study**

*Author: Ali Maisam Eshraqi*

### **Background:**

Oral health is a critical aspect of overall well-being, with significant implications for physical health and quality of life. Despite the well-documented understanding of oral hygiene practices, there is limited research on oral health behaviors in Afghanistan, a country with unique socio-cultural and economic challenges.

### **Objectives:**

This study aims to assess oral hygiene practices and identify associated risk factors among individuals in Kabul, Afghanistan, to provide insights into oral health behaviors in low-resource settings.

Methods: Institutional based cross-sectional study was conducted from March 2021 to March 2022, involving 1,948 participants from dental hospitals in Kabul. Descriptive and inferential statistical analyses, including logistic regression, were employed to explore associations between variables and oral hygiene status.

### **Results:**

The study revealed that 59.7% of participants had poor oral hygiene. Key predictors of good oral hygiene included higher education levels, better wealth status, and younger age. Surprisingly, higher snack consumption was associated (AOR: 1.66, CI: 1.24-2.21) with better oral hygiene, contrary to existing literature. Continuous medication use also correlated with better oral hygiene practices with an AOR of 2.14.

### **Conclusions:**

The findings highlight the complex interplay of demographic, educational, and behavioral factors in determining oral hygiene practices. Targeted interventions including health information provision regarding oral health for patients specifically for poor and uneducated individuals is recommended to enhance oral health outcomes in low-resource settings like Afghanistan.

**Keywords:** Oral hygiene, Afghanistan, socioeconomic status, education, snack consumption. Corresponding

## **Comprehensive Narrative Analysis of Antimicrobial Resistance in Afghanistan: Key Drivers, Challenges, and Strategic Interventions**

*Hedayatullah Ehsan, Fazel Rahim Wardak, Hasiba Karimi, Fariha Kamal, Hasibullah Aminpoor, Abdul Salam, Hira Tariq, Rameen Damani, Mohamed Nasser Elshabrawi, Mehak Faisal, Chukwuagoziem Augustine Iloanusi Ayushmaan Roy Izza Shakeel Sharvari Joshi, Md Abubakar Abubakar Yosufi, Ahmad Jamshid Mehrpoor*

### **Background:**

Antimicrobial resistance (AMR) presents a global health crisis, and Afghanistan, with its limited healthcare infrastructure, faces an acute AMR challenge. Factors such as overuse of antibiotics, unregulated drug sales, and low public awareness contribute to an accelerated spread of resistant pathogens. This study offers a comprehensive narrative analysis of the drivers of AMR in Afghanistan and proposes strategic, context-specific interventions.

### **Methods:**

A narrative review was conducted using available literature and national reports to assess AMR prevalence in Afghanistan, identify contributing socio-political and healthcare challenges, and evaluate the impact of these challenges on AMR surveillance and control.

### **Findings:**

High resistance rates are prevalent among key pathogens, including *Escherichia coli*, *Staphylococcus aureus*, and *Klebsiella pneumoniae*, with resistance to first-line antibiotics exceeding 80% for many infections. Afghanistan's fragile healthcare infrastructure, compounded by unregulated antibiotic sales and self-medication practices, exacerbates AMR rates. Limited AMR surveillance and inadequate infection control practices further intensify the crisis.

### **Interpretation:**

Addressing AMR in Afghanistan requires urgent, coordinated action. Recommendations include strengthening healthcare infrastructure, enforcing antibiotic regulations, enhancing surveillance, and implementing public education campaigns. Worldwide teamwork is vital to building a resilient healthcare system to address Afghanistan's unique AMR challenges effectively. These interventions are crucial to controlling the spread of AMR and preventing a healthcare crisis.

## **Climate change**

*Author: Poya*

### **Background:**

Climate change is increasingly recognized as a critical challenge to public health, with significant implications for morbidity, mortality, and healthcare systems worldwide. Despite its global relevance, awareness among future healthcare professionals remains variable, knowledge and awareness particularly in developing countries such as Afghanistan.

### **Objective:**

This study aimed to assess the of students at Kabul University of Medical Sciences (Abu Ali Ibn Sina) regarding climate change and its health impacts.

### **Methods:**

A cross-sectional study was conducted among 323 students across eight faculties, using a validated questionnaire adapted to the Afghan context. Data collection involved demographic profiling, assessment of knowledge, sources of information, and protective behaviors. Statistical analysis was performed using SPSS, with results presented in tables and charts.

### **Results:**

Of the distributed questionnaires, 311 were complete and analyzed (response rate: 96%). Participants' mean. Average age was 22 years. The majority (72.3%) demonstrated good knowledge of climate change, 24.1% had moderate knowledge, and only 3.5% showed poor awareness. Internet and social media were the dominant information sources (75.5%), followed by television (14.9%). Although awareness levels were relatively high, most students (94.9%) agreed that public access to scientific information should be increased, and only 46% demonstrated strong protective behaviors.

### **Conclusion:**

Kabul medical students generally have a good understanding of climate change and its health implications; however, significant gaps remain in formal education and practical preparedness. Incorporating climate-health modules into curricula and promoting evidence-based learning resources are recommended to strengthen future healthcare responses.

**Keywords:** Climate change, Health impacts, Awareness, Medical students, Kabul, Public health

## **Effect of bowel management on the quality of life in children with fecal incontinence: A prospective cohort study**

*Roohullah Hares, Mohammad Tareq Rahimi  
Pediatric Surgery Department, FMIC*

### **Introduction:**

Fecal incontinence is a devastating problem that affects about 25% of patients born with an anorectal malformation, some patients who have undergone an operation for the treatment of Hirschsprung's disease, patients who were born with pelvic tumors, spina bifida, sacral agenesis, and patients who have had severe pelvic trauma. Children and adults with fecal incontinence are often discriminated against and may not have an active and productive life.

### **Methods:**

A prospective study on pediatric patients who had fecal incontinence due to known congenital and acquired cases with age range of 3-18 years old using PedsQL was conducted at FMIC from March 2023 to August 2025 to explore the effectiveness of bowel management among pediatric patients with fecal incontinence.

### **Results:**

The bowel management success rate was higher in patients with tendency toward constipation (43 [95%]) than in patients with tendency toward diarrhea (11 [74%]). six patients (10%) did not improve. The failure was more frequent in the group with tendency toward diarrhea.

### **Conclusion:**

Bowel management program results in significant and sustained improvement in fecal incontinence and quality of life for patients and care-givers. The key to a successful bowel management program rests in tailoring the type of enema, medication, and diet to the specific type of colon.

## **Reducing Medical Record Completion Time Post-Discharge at the HIMS department of FMIC**

*Ahmad Farid Amani | Sarah Baharistani | Bakhtyaree Mirzaee*

### **Background:**

Incomplete or delayed medical records post-patient discharge can lead to inefficiencies in hospital operations, compromise data accuracy, and negatively affect patient care continuity. Evidence suggests that timely reminders, physician support, and improved record-tracking mechanisms can significantly reduce turnaround time for completing medical records after discharge, optimize patient outcomes, increase regulatory compliance, and improve overall hospital performance. This quality improvement project aims to reduce the time required for completing medical records after patient discharge at the Health Information Management Services (HIMS) department of FMIC by streamlining workflows, enhancing physician compliance, and implementing effective monitoring and support mechanisms. Furthermore, the project seeks to identify existing gaps and challenges in record completion, such as delays in physician documentation, high patient volume, and manual record handling. Through workflow assessment, staff engagement, and the introduction of structured monitoring tools, the project intends to streamline processes, improve compliance with medical documentation standards, and enhance operational efficiency.

### **Method:**

This is the result of quality improvement project conduct during 2025. PDSA cycle was used to guide this quality project, Problem identification, analysis, designing the interventions including resource allocation and policy development, and execution were the main domains of this project.

### **Result:**

A six-month quality improvement initiative was conducted utilizing the PDSA methodology. Baseline data from the preceding six months revealed an average record completion time of 28.4 days, with only 61% of records completed within the organizational target of 5 days. Following the implementation of a PDSA protocol and the introduction of a streamline records management significant improvements were observed. Post-intervention data collected over six months' period demonstrated 57% reduction in the average completion time, decreasing from 28.4 days to 5.2 days. Also, 92% increase in the rate of records completed within the 5-day target, rising from 61% to 85.7%.

### **Conclusion:**

Reducing medical record completion time post-discharge strengthened efficiency of performance in FMIC's and quality of care. Through enhanced staff engagement, this project established a sustainable process for timely documentation.

## **Clinical Profile of Thalassemia Patients at FMIC, Kabul**

*Muhibullah Rahmani, Ahmed Maseh Haidary, Maryam Ahmad, Sarwar Anwari, Ahmad Zia Gauhari*

### **Background:**

Thalassemia is a major cause of chronic anemia in Afghanistan, where high consanguinity rates contribute to its prevalence.

### **Objective:**

To describe the demographic and clinical features of thalassemia patients treated at the French Medical Institute for Children (FMIC).

### **Methods:**

A cross sectional review of thalassemia patients registered from 01/05/ 2025 to 30/07/2025 was conducted. Data included age, sex, types of thalassemia.

### **Results:**

Among 138 patients (75% male and (63%) female. mean age  $1-5 \pm$  years), Normal HPLC 45 %, Alpha thalassemia 4%,Beta thalassemia minor 45%, Beta thalassemia trait 26%, Beta thalassemia intermediate 4%,Compound heterozygous sickle/Beta + 3%, Beta thalassemia syndrome 8%, D-B thalassemia 2%.

### **Conclusion:**

Thalassemia remains a significant pediatric health burden in Kabul, with high transfusion dependency and iron overload. Improved screening and chelation programs are urgently needed.

## **The Role of rTMS in Advancing Mental Health Care in Afghanistan: Opportunities, Evidence, and Implementation Considerations**

*Dr. Mohsin Khaliqi, Dr. Hakimullah Saleh, Dr. Asif Azimi*

### **Introduction:**

Psychiatric disorders represent one of the major health challenges in Afghanistan. Major depressive disorder (MDD), anxiety disorders, obsessive compulsive disorder (OCD), post-traumatic stress disorder (PTSD), and substance use disorders not only increase the burden of disease at the individual and family level, but also reduce social and economic productivity. The unique circumstances of Afghanistan including decades of conflict, political instability, poverty, and severe shortages of mental health professionals have further exacerbated these challenges. Although pharmacotherapy remains an essential component of treatment, adverse effects such as weight gain, sedation, sexual dysfunction, and metabolic changes frequently lead patients to discontinue treatment. Psychotherapeutic interventions, while evidence-based, are largely inaccessible due to the lack of trained professionals and the absence of structured academic programs. In this context, repetitive transcranial magnetic stimulation (rTMS), a novel and non-invasive neuromodulation technique with a favorable safety profile, may represent an important therapeutic option to strengthen mental health services in Afghanistan.

**Methods:**

This narrative review synthesized evidence from randomized trials, meta-analyses, and clinical guidelines (2010–2025) on the use of rTMS for MDD, PTSD, OCD, and addiction-related disorders. Key parameters, safety, tolerability, and feasibility of implementation in low-resource contexts were examined.

**Results:**

Evidence consistently shows that rTMS is effective for treatment-resistant depression, with emerging support for OCD, PTSD, and substance use disorders. Compared to electroconvulsive therapy (ECT), rTMS is better tolerated, requires no anesthesia, and has fewer cognitive side effects, improving patient acceptability. The most common adverse events are mild and transient, such as scalp discomfort and headache. Shorter stimulation protocols (e.g., iTBS) further enhance feasibility. In Afghanistan, successful implementation would require minimal infrastructure, basic clinician training, and structured outcome monitoring.

**Conclusion:**

rTMS is an evidence-based, safe, and scalable intervention that could strengthen Afghanistan's mental health services, particularly for patients limited by medication side effects or constrained access to psychotherapy. We propose pilot programs in tertiary centers (Kabul/major provinces) with structured training, safety governance, and real-world outcome registries to evaluate effectiveness, cost, and equity of access. Positive pilot data could inform national guidance and sustainable scale-up.

**Disseminated Staphylococcal Infection with Bilateral Pyomyositis and Septic Pulmonary Emboli in a Child: A Case Report from the French Medical Institute for Mothers and Children (FMIC), Kabul, Afghanistan**

*Lemar Jawid, Pediatric Medicine Resident*

*French Medical Institute for Mothers and Children (FMIC), Kabul, Afghanistan*

**Background:**

Pyomyositis is a rare bacterial infection of skeletal muscle, most often caused by *Staphylococcus aureus*. Disseminated infection with multifocal muscle abscesses and septic pulmonary emboli in children is uncommon and carries significant morbidity. We report a case of a 9-year-old girl with disseminated staphylococcal infection complicated by bilateral thigh pyomyositis and septic pulmonary emboli, managed at the French Medical Institute for Mothers and Children (FMIC), Kabul, Afghanistan.

**Case Presentation:**

A previously healthy 9-year-old girl presented with fever, body pain, and progressive swelling of the right knee and elbow following a minor fall. Examination revealed fever, whole-leg swelling with restricted range of motion, and erythematous joints. Laboratory findings showed leukocytosis (WBC 32,000/ $\mu$ L), elevated CRP (27.5 mg/dL), ESR (60 mm/hr), procalcitonin (5.6 ng/mL), and deranged liver enzymes (SGPT 106 U/L). Platelets later decreased to 21,000/ $\mu$ L before recovering with transfusion. Ultrasound demonstrated generalized limb edema, and MRI revealed abscesses measuring 13 cm in the right thigh and 3 cm in the left thigh. Blood cultures grew *Staphylococcus non-aureus*, while pus culture after drainage confirmed MRSA.

**Management & Outcome:**

Empiric meropenem and vancomycin were started on admission, with clindamycin added on day 4. Surgical drainage of both thigh abscesses was performed. Chest CT showed multiple septic pulmonary emboli. The patient was managed with intravenous antibiotics, apixaban, nutritional support, and multidisciplinary care involving pediatrics, orthopedics, and infectious disease teams. She showed steady clinical improvement post-surgery and is currently recovering well.

**Conclusion:**

This case highlights the importance of early recognition and aggressive management of disseminated staphylococcal infection in children. Multifocal pyomyositis complicated by septic emboli is rare but requires prompt multidisciplinary intervention to improve outcomes.

**Keywords:** Pyomyositis; Staphylococcus aureus; MRSA; Pediatric infection; Septic emboli; Case report

## **Surgical treatment of congenital hallux varus deformity: A tertiary hospital experience**

*Salahuddin Siraj*

**Background:**

Hallux varus deformity is the rare foot deformity. The purpose of this study was to report the surgical outcomes of congenital hallux varus deformity.

**Methodology:**

A retrospective review of three patients with a congenital hallux varus deformity conducted, that includes three feet combined with a longitudinal epiphyseal bracket (LEB), who were treated at FMIC. Clinical outcomes were assessed according to the criteria of Phelps and Grogan. Farmer procedures were applied for three of them.

**Results:**

Medical record of three patients revealed that all patients were male with a mean age of 4.5 years (range, 1.2 to 9 years) at the time of surgery. Two patients' Right side and one patient Left side. The mean duration of follow-up was 0.9 year (range, 0.6 to 1.5 years). The clinical results were excellent in two feet and good in one foot. The patients have excellent cosmetic outcome.

**Conclusions:**

Congenital hallux varus deformity is a rare condition which was successfully corrected by surgery with overall favorable outcome.

**Key words:** hallux varus, Farmer procedure.

## **Demography of haemorrhoids in Jamhuriat Hospital, Kabul**

*Basira Bek, Yahya Fayaz, Shahab Uddin Ahmadi, Rahila Bek, Reza Fahimi*

### **Background:**

Hemorrhoids, common benign anorectal conditions, are associated with various factors, such as low fiber intake, constipation, and pregnancy. Treatment typically involves procedures such as banding and surgery.

### **Objective:**

This retrospective investigation aimed to assess the frequency and demographics of hemorrhoids in Kabul, Afghanistan.

### **Materials and Methods**

This study was conducted at Jamhuriat Hospital in Kabul, Afghanistan. Two hundred and fifty-two patients who were diagnosed with hemorrhoids were included. All pertinent demographic data were collected from the medical records and analyzed using IBM SPSS Statistics 25.

### **Results:**

Males composed 83.7% of the patients, and 32.9% were aged 30–40 years. A lower socioeconomic status was common (61.1%). Bleeding, prolapse, and pain were frequent symptoms. Surgical management was common for third- and fourth-degree hemorrhoids (51.6%).

### **Conclusion:**

This study found a high prevalence of hemorrhoids among males (83.7%) and low-income individuals (61.1%), highlighting the need for further research into risk factors for delayed presentation.

**Keywords:** Hemorrhoids, rectal disease, anus disease, Afghanistan

## **Title: Effective and innovative teaching methods in undergraduate medical education in Kandahar, Afghanistan: From the learners' and instructors' perspective**

*Mohammad Younas Sulaiman<sup>1</sup> and Muhammad Haroon Stanikzai<sup>2</sup>*

### **Background:**

Incorporating modern methods of teaching has shown promising results in enhancing the learning experience in medical education. However, its applications are still limited in low- and middle-income countries (LMICs), including Afghanistan.

### **Objectives:**

This study aimed to describe current teaching methods in Kandahar's medical universities and to explore students' and instructors' perspectives on their effectiveness.

## **Methods:**

We conducted a cross-sectional study among 325 medical students and 36 instructors. A structured questionnaire gathered information on current teaching practices and their effectiveness from learners' and instructors' perspectives. We used descriptive statistics to present our study's findings.

## **Results:**

The mean age of instructors was 34 years, and the mean age of the students was 24 years. Almost all participants were familiar with traditional lectures but reported limited exposure to interactive methods. In our study, on a 5-point scale, PowerPoint lectures received the highest mean score from both groups (students: 4.66; instructors: 4.47). However, the difference was not statistically significant ( $p > 0.05$ ). followed by whiteboard teaching (students: 3.46; instructors: 3.89). No significant difference was observed between students and instructors in their perception of whiteboard teaching ( $p = 0.21$ ). Regarding effectiveness, both groups viewed PowerPoint (4.07 vs. 4.33) and whiteboard teaching (4.24 vs. 4.36) as most effective. Students also valued IPD based teaching (4.18) and bedside teaching (4.14), while instructors emphasized group discussions (4.06). Case-based learning (CBL: 3.76 vs. 3.61), problem-based learning (PBL: 3.54 vs. 3.75), and Outcome-Based Education and Student-Centered Learning (OBE & SCL: 2.9 vs. 3.7) received moderate scores. Barriers to modern teaching methods included a lack of time, inadequate facilities, and limited student access to technology, reducing the benefits of online learning. Conclusion: This study indicated that traditional methods are still prevalent in medical schools in Kandahar, which is a cause for concern and action. Along with other potential areas in the Afghan medical education system, there is a need for incorporating modern teaching methods into learning environments.

**Keywords:** Teaching, Learning, Medical students, medical education, Teaching methods

## **Rare Presentation of Fetus-in-Fetu in an Infant: A Case Report**

*Authors: Mamoounullah Asmati, Mohammad Tareq Rahimi, Roohullah Hares*

### **Introduction:**

Fetus in fetu (FIF) is a rare congenital anomaly of embryogenesis in which a malformed parasitic twin is found within the body of its host. The incidence of FIF is reported 1 in 500,000 births with male predominance of 2:1 ratio. It's a rare cause of abdominal mass and differentiated from teratoma by the presence of vertebra with limb buds and other organ system. The occurrence of FIF is mostly in the retroperitoneum but it can be happened in the cranial cavity and scrotal sac as well.

### **Case Presentation:**

A 3-month-old boy presented to the outpatient clinic with the complaint of irritability and abdominal distention on the left upper quadrant since after birth. On physical examination, a well-defined semi-solid mass was palpable on the left upper quadrant of abdomen. CT scan reported a large, well-defined heterogenous lesion in the left upper quadrant of abdomen, the feature suggestive of Nephroblastoma and teratoma.

Elective laparotomy was performed, there was an encapsulated retroperitoneal mass in the left side of abdomen identified which was displaced left kidney, spleen and pancreas. The mass was completely excised and sent for histopathological examination. The mass had soft tissue, fat, fluid and bone components predominantly with apparent spine, ribs, facial bones, and upper limbs. The diagnosis was subsequently confirmed by histopathological report. The postoperative period was uneventful. The patient was discharged in stable condition on the fourth postoperative day. The outcome was good at the 6-month follow-up.

### **Conclusion:**

Fetus-in-fetu is an extremely rare condition, currently classified as a benign mass. Although its exact pathogenesis and characteristics remain unclear, imaging modalities can strongly suggest the diagnosis through the identification of a vertebral column or limb-like structures. Therefore, meticulous assessment and comprehensive investigation are essential for accurate diagnosis and timely intervention.

### **Documentation (Patient Safety)**

*Ali Bigzaad, Noor Rahman Ahmadzai, Sami Stanikzai, Farhad Sadat*

### **Introduction:**

Documentation of patient care in medical record formats is always emphasized. These documents are used as a means to go on treating the patients, staff in their own defense, assessment, care, any legal proceedings and medical science education. so our aim was to find the documentation mistakes and complete them in Adult Medicine Department of FMIC.

### **Methods:**

The sample in this study were all files that were incomplete filling in June 2024-June 2025. Data from numerous sources were extracted to discover the incomplete and mistakes of files from medical records, monthly audit results and JCIA external mock audit results which is being conducted through QPSD- Quality Improvement and Patient Safety Department were considered a base for this study. Besides that, weekly checking of all files in the mentioned department by a plan made for each member of the department and monthly presentations were held regarding the best documentation of files.

### **Results**

Completing patients' files documentation increased sequentially from 83.4% to 99.3 % during plan-do-study-act cycles. The most parts of files with incompleteness were medical and drug history, plan for the next step of management, bad writing style, which was not readable, health education part and not using clear impression (much using abbreviation on discharge sheets). which showed 82.2%, 77 %, 89.5% ,79.8%, 90.2 respectively for the year of 2024. As part of the improvement strategies, studying and focusing on these parts the result increased to medical and drug story 100%, plan of management 99.8 %, writing style 99.5 % and 98 % was health education.

### **Conclusion**

This project provides information that quality of medical documentation has several far-reaching impacts, from directly affecting the quality of patient care, to influencing hospital funding. Unfortunately, good documentation can become a low priority for some busy doctors. Good documentation promotes continuity

of care through clear communication between all members involved in patient care. On the other hand, this project showed that some of mistakes were made due to lack of enough staff. Hope this issue be considered.

## **Adenomyosis and Hematometra in a Non-communicating Rudimentary Horn of a Unicornuate Uterus: A Case Report**

*Farzana Wali Jebran<sup>1\*</sup>, Ahmad Mujtaba Jebran<sup>2</sup>, Karima Sadat*

### **Background:**

Congenital uterine anomalies with outflow tract obstruction as a result of abnormal development of the Müllerian duct system can lead to painful pelvic emergencies such as hematometra. Clinical symptoms such as dysmenorrhea, dyspareunia, and acute and chronic pelvic pain usually develop at the age of menarche and the following years.

### **Case presentation:**

Here we present a case of a 21-year-old nulligravida female with severe chronic pelvic pain. The pain level increased severely during the menstrual period and coitus. Ultrasonography and magnetic resonance imaging (MRI) showed two separate uterine bodies. The left body was a unicornuate uterus with an endometrial lining connected to the cervix and the vaginal canal. The right body showed hematometra without a cervical opening. The patient was diagnosed to have a unicornuate uterus with a non-communicating functioning rudimentary horn containing hematometra. The patient underwent a hemi-hysterectomy, and the rudimentary horn was removed. The histopathological findings reported adenomyosis with cystic changes. The patient recovered post-operation, and her severe pain subsided.

### **Conclusions:**

This case focuses on the importance of timely diagnosis and management of rare non-communicating functioning rudimentary horn cases, which can result in severe painful, stressful, and histopathologic changes, affecting the quality of life. Precise diagnosis and surgical excision resulted in rapid pain relief after the operation.

**Keywords:** Adenomyosis, unicornuate uterus, non-communicating rudimentary horn, hematometra.

## **Building Stronger and Advanced Communication Channels at FMIC**

*Negina Mohammadi, Hamida Frotan, Sara Samadi, Zhala Hayeri, Dr. Shahban Ali Noori, Dr. Safia Nassery, Nelab Maqsoodi, Mr. Zakariya Jomazada*

### **Introduction:**

Effective communication is the cornerstone of any successful organization. At FMIC, where collaboration across departments, teams, and disciplines is essential to delivering high-quality healthcare, strengthening our internal communication channels is more important than ever. This initiative aims to build stronger, more advanced communication systems that foster transparency, enhance coordination, and support a culture of openness and efficiency. By improving the way we share information and connect with one another, we can create a more cohesive work environment and ultimately improve service delivery for our patients.

### **Methods:**

## **1. Assessment and Stakeholder Engagement**

- conduct surveys, interviews, and focus groups with staff across all departments to understand current communication gaps and needs.
- Engage key stakeholders (management, department heads, IT, HR, frontline staff) early to gather input and build buy-in.

## **2. Audit of Current Communication Channels**

- Evaluate existing communication tools and platforms (email, intranet, messaging apps, bulletin boards, meetings).
- Identify strengths, weaknesses, overlaps, and underused resources.

## **3. Selection and Integration of Advanced Communication Tools**

- Research and select appropriate communication technologies that fit FMIC's needs (e.g., internal messaging platforms like Microsoft Teams or Slack, project management tools, video conferencing).
- Integrate these tools into existing workflows with IT support for smooth adoption.

## **4. Develop Clear Communication Policies and Guidelines**

- Establish standardized protocols for internal communication (e.g., response times, use of channels for different types of messages, confidentiality).
- Share guidelines to ensure consistency and professionalism.

## **5. Training and Capacity Building**

- Organize training sessions and workshops to familiarize staff with new tools and communication best practices.
- Provide ongoing support and resources (FAQs, quick guides, help desk).

## **6. Pilot Testing and Feedback Loop**

- Run pilot programs within select departments to test new communication channels and protocols.
- Collect feedback and adjust before organization-wide rollout.

## **7. Regular Monitoring and Evaluation**

- Set clear metrics for success (e.g., response times, employee satisfaction, reduction in communication errors).
- Conduct periodic reviews and surveys to assess effectiveness and identify areas for improvement.

○

## **8. Promote the Culture of Open Communication**

- Encourage leadership to model transparent communication and foster an environment where feedback is welcomed.
- Recognize and reward effective communication practices.

### **Results:**

The implementation of stronger and advanced communication channels at FMIC will lead to improved information flow, enhanced collaboration among teams, increased employee engagement, and greater operational efficiency. Ultimately, these improvements will contribute to better patient care and a more cohesive, productive work environment.

### **Conclusion:**

Effective communication is the foundation of a successful and efficient healthcare organization. By investing in stronger and more advanced communication channels, FMIC will enhance collaboration, foster a positive workplace culture, and improve overall operational performance. This project is a crucial step toward ensuring that all staff members are connected, informed, and empowered to deliver the highest quality of care. With

continued commitment and engagement, FMIC will build a more resilient and unified organization prepared to meet the challenges of today and tomorrow.

## **Anesthesia management for patients with low ejection fraction undergoing coronary artery bypass grafting (cabg)**

*Abdullah Kamranzai M.D, Ahmad Rashad Akbari M.D anesthesiologist*

### **Background:**

Coronary Artery Disease (CAD) is a condition caused by the formation of blockages in the coronary blood vessels. The primary minimally invasive procedure for management of acute CAD patients is Percutaneous Coronary Intervention (PCI). In some cases, the patient cannot be revascularized with PCI and need surgery e.g. Coronary Artery Bypass Grafting CABG.

### **Case:**

We received a 50-year-old male patient with coronary artery disease (CAD) with (chest pain and shortness of breath) that affected and left main coronary artery severe stenosis, Left anterior descending (LAD) and right coronary artery (RCA) stenosis in coronary angiography. The patient's clinical condition was unstable; he had a low ejection fraction (20-25%).

The patient transferred to OR for CABG operation. The challenge was induction before intubation of the patient without proper cardiac inotropic support and access to circulatory system in the context of low ejection fraction. We applied central venous line, arterial line before induction and started inotropic support (Dobutamine) until the patient's blood pressure became stable, and then the patient anesthetized and intubated. CABG was done with arterial grafts and patient transferred to CICU. He was extubated on (2nd) postoperative day and shifted to step-down Unit after three days.

### **Discussion:**

The main principle of anesthetic management in this case is to maintain pre induction blood pressure. Strict monitoring of hemodynamic changes during surgery is essential to guide necessary supportive therapy. Patients with low ejection fractions are at high risk for pre and post-operative mortality and complications. Post-operative management in the CICU focuses on optimizing clinical condition and addressing any emerging potential issues.

### **Conclusion:**

Surgery for patients with CABG requires complicated and complex anesthetic techniques and monitoring. This operation requires collaboration and good communication between the surgeon and the anesthesiologist.

**Keywords:** Coronary Artery Disease, Coronary Artery Bypass Grafting, Low Ejection Fraction, Anesthesia Management.

## Knowing the Stress Factors among Critical Care Nurses in Kabul, Afghanistan

*Fatima Naikzad, Hashmatullah Ibrahim*

### **Background:**

Critical care nurses face emotionally and physically demanding situations, making them highly vulnerable to occupational stress which affects their well-being and negatively affects patient care outcomes. Stress among nurses leads to job turnover due to dissatisfaction, heavy workload, communication gaps and disrespect.

### **Objective:**

To identify and analyze the major stressors experienced by critical care nurses in a tertiary care hospital in Kabul, Afghanistan.

### **Methods:**

A descriptive cross-sectional study design was used to identify the stress related factors among nurses working in Intensive Care Unit (ICU) of a tertiary care hospital. A structured survey questionnaire was administered to the total population of 30 nurses from June to Aug 2025. The questionnaire consisted of two sections (a) demographic data and (b) the 29-item Nursing Stress Scale (NSS). Responses were measured using a four-point Likert scale (Never, Occasionally, Frequently, Very Frequently) and data were analyzed using Descriptive statistics. Informed consent was obtained from all the participants after providing complete study information.

### **Results:**

The demographic data showed predominantly male participants (70%), aged 23–45 years; 60% were married, and 93% were employed full-time. Regarding experience, 40% had 5–10 years, 30% had 1–5 years, and 20% had over 15 years of experience.

The study results revealed that the most frequently reported stressor was witnessing patient suffering in death and dying situations (83%). Other significant contributors to stress were poor handovers between nurses and criticism from colleagues (63%), inadequate preparation to provide emotional support to families (63%), conflict with physicians such as criticism (50%) and inappropriate treatment plans (56%), increased workload (50%) when inexperienced nurses were assigned to critically ill patients and staff shortages (47%).

### **Conclusion:**

Critical care nurses face considerable stress from patient suffering, workload, interprofessional conflicts and staff shortages. Addressing these challenges through improved stress management programs, effective communication and collaboration between nurses and physician, staffing models and shift adjustments can enhance nurses' well-being and ensure better quality patient care outcomes in Afghan healthcare setting.

## **High-Risk Neurosurgical Anesthesia: Management of a Young Epileptic Patient Undergoing Six-Hour Craniotomy for Brain Tumor: A Case Report**

*Dr. Nasir Ahmad "Hakimk", Dr. Reshad "Akbari", Dr. Sharifullah*

### **Background:**

Neurosurgical anesthesia requires precise control of cerebral hemodynamics to optimize surgical conditions and prevent secondary brain injury. In patients with brain tumors and comorbid epilepsy, the anesthetic challenges include maintaining stable intracranial pressure (ICP), cerebral perfusion pressure (CPP), and seizure control during prolonged craniotomy.

### **Objective:**

To present the anesthetic management of a young male with epilepsy undergoing a six-hour craniotomy for right-sided brain tumor resection, focusing on ICP, CPP, and hemodynamic optimization.

### **Case Presentation:**

A 22-year-old male with a history of epilepsy underwent elective craniotomy for resection of a right-sided brain tumor. Invasive arterial blood pressure monitoring was established. Capnography was maintained around 35 mmHg to optimize intracranial dynamics. Mean arterial pressure (MAP) was carefully controlled between 70–80 mmHg, ensuring stable CPP throughout the procedure. Fluid therapy consisted of Ringer's lactate, mannitol, with careful balance to avoid increases in ICP. During selected surgical stages, controlled hypotension was employed to minimize intraoperative bleeding and improve visualization. Antiepileptic medication was continued perioperatively. The patient remained supine, and the surgery lasted six hours. At the end of the procedure, the patient was transferred intubated to the ICU for postoperative care and neurological monitoring.

### **Results:**

CPP and ICP remained within target ranges, with stable systemic hemodynamics maintained throughout surgery. No intraoperative seizure activity occurred, and blood loss was adequately managed without complications.

### **Conclusion:**

This case illustrates the importance of individualized anesthetic strategies in neurosurgery, emphasizing invasive monitoring, controlled ventilation, strict MAP and CPP management, continuation of antiepileptic therapy, and perioperative teamwork to ensure favorable outcomes in prolonged high-risk brain tumor surgery.

### **Keywords:**

Craniotomy, brain tumor, anesthesia, epilepsy, cerebral perfusion pressure, intracranial pressure, controlled hypotension

## **An examination of the use of artificial colors in imported green tea and the associated risks in the city of Kabul**

*Mohammad Ismaiel Ayar*

### **Background:**

Green tea is one of the most popular aromatic non-alcoholic beverages in Afghanistan and worldwide. However, the adulteration of green tea has become a significant issue, primarily driven by economic incentives, with artificial colors being used to enhance the appearance of damaged tea leaves, making them look greener and more appealing. According to ISO standards (ISO 11278, ISO 11287, ISO 9768, ISO 1839, and ISO 20715), green tea should be free from artificial colors and flavorings.

### **Objective:**

This study aimed to investigate the presence of artificial colors in imported green tea sold in Kabul.

### **Methods:**

A cross-sectional study was conducted using previously established analytical tests applied in similar studies in India and Sri Lanka. A total of 220 green tea samples were collected from 22 districts of Kabul in 2024. The data were analyzed using SPSS v26, and an Eta correlation coefficient analysis was performed to examine the relationship between artificial color usage and tea price.

### **Results:**

The results showed that 52 samples (23.6%) contained artificial acid colors, predominantly found in teas that were physically intact and priced between 301 and 400 Afghani. However, the statistical analysis indicated no significant relationship between the presence of artificial colors in green tea and its price ( $p$ -value > 0.05). The majority of the detected artificial colors were azo dyes, which are known to have potential carcinogenic effects, particularly increasing the risk of bladder and liver cancer.

### **Conclusion:**

These findings highlight the continued presence of artificial colors in green tea sold in Kabul, emphasizing the need for stricter quality control measures in imported tea products.

**Keywords:** Green tea, artificial color, Azo, price

## **Surgical Treatment of Congenital Radioulnar Synostosis with Derotational Osteotomy. at FMIC Kabul ,AFG**

*Ajazulhaq Amin (PGY3) Salahudin Seraj(MS Ortho) Shekaib Rahman Behroz(MS Ortho,)*

### **Background:**

Congenital radioulnar synostosis (CRUS) is a rare developmental anomaly involving fusion of the proximal radius and ulna, leading to fixed forearm pronation and functional limitations. Surgical treatment is considered for patients with severe deformity and impaired function, particularly in bilateral cases

**Objective:**

To evaluate the short-term outcomes of derotational osteotomy for CRUS performed at the French Medical Institute for Mothers and Children (FMIC), Kabul.

**Methods:**

This retrospective study included 10 patients (7 males, 3 females; age range: 3–14 years) treated between early 2023 and mid-2025. A total of 16 forearms were operated (6 bilateral and 4 unilateral cases). In bilateral cases, the right forearm was typically corrected to a functional supinated position, while the left was either left in its original position or corrected in cases of severe hyperpronation. All patients underwent derotational osteotomy stabilized with either two or three K-wires. Average follow-up duration was 18 months. Outcomes were assessed based on rotational correction, function in daily activities, and complications.

**Results:**

All patients achieved improved forearm positioning and functional use. One patient developed postoperative wrist drop, which showed partial recovery during follow-up. No infections, re-operations, or significant hardware-related complications were noted. Patient and caregiver satisfaction was high, especially in those with severe preoperative limitations.

**Conclusion:**

Derotational osteotomy with K-wire fixation is an effective surgical intervention for children with CRUS, providing improved forearm function and low complication rates. Asymmetrical correction in bilateral cases can optimize outcomes based on functional demands.

**Keywords:** Congenital radioulnar synostosis, pediatric orthopedics, derotational osteotomy,, forearm deformity ,FMIC

**Demographic Profile of Gastric Cancer in Afghanistan**

*Ahmad Mustafa Rahimi and Shah Jahan Shayan*

**Background:**

Gastric cancer is the second commonest cause of death among all cancers and the fifth most common cancer in the world. The number of deaths due to gastric cancer is about 723,000 annually. It is more common in men compared to women. The incidence of gastric cancer has 20-fold variation worldwide. In Asia, it is the third most prevalent cancer after breast and colorectal cancers.

The prevalence of gastric cancer in Middle East varies from very high in Iran to low in Israel and very low in Egypt. The purpose of this study was to assess the demographic profile of gastric cancer in Afghanistan.

**Methods:**

A retrospective analysis of patient's records at the Oncology Department of Jamhoriyat Hospital in Kabul, Afghanistan was conducted in a 1 year period. Data of patients diagnosed with gastric cancer was obtained from the registers of the oncology department from March 2018 to February 2019. Variables of interest included age, gender, ethnicity, and place of residence of the patients.

**Findings:**

Totally, 1324 cancer patients attended to the oncology department in 1 year; of these, 174 patients were diagnosed with gastric cancer. There were significantly more gastric cancer patients among males (69.5%) relative to females. With regard to ethnicity, the Tajeks contributed majority of the cases presenting with gastric

cancer. The majority of the patients presenting with gastric cancer were from Kabul province. There were more cases of gastric cancer were in Northern provinces. Majority of the cases were contributed by patients above 50 years of age and male gender. This retrospective study aims to provide information about prevalence and demographic characteristics of patient with gastric cancer in Afghanistan. However, there is lack of literature regarding gastric cancer in this war-torn country.

**Keywords** Demographic . Gastric cancer . Afghanistan . Jamhoriat Hospital

## **Non-Prescription Antibiotic Use in Kabul: Prevalence, Determinants, and Implications for Antimicrobial Resistance”**

*Habib Bahrami Kabul Medical University-public health*

### **Background:**

Occupational hygiene in barbershops is a significant public health concern due to the use of sharp instruments and close client contact, which facilitate the transmission of blood-borne and skin infections such as HIV and hepatitis B and C. In Afghanistan, particularly Kabul, little empirical research has examined barbers’ knowledge, attitudes, and practices (KAP) regarding hygiene.

### **Objective:**

This study assessed the knowledge, attitude, and practice of male barbers in Kabul city concerning personal and occupational hygiene, and explored associations with demographic and professional characteristics.

### **Method:**

A cross-sectional survey was conducted in 2025 among 385 male barbers in Kabul. Data were collected using a structured questionnaire and direct observation. Statistical analysis was performed in SPSS v26 with descriptive methods and Chi-square tests.

### **Results:**

Participants had a mean age of 27 years (range: 16–65), with 63.9% aged 20–30 years. Over half (54.5%) were married and 41.8% had completed secondary education. Average work experience was nine years, and 79.7% considered barbering their permanent occupation. While 94% held a license and 83% had a health card, only 43% had received hygiene training. Overall, 71% demonstrated good knowledge and 62% favorable attitudes, but only 52% showed acceptable hygienic practices. Knowledge of hepatitis was limited. Use of personal protective equipment was minimal: none reported using masks or caps, 43% used disposable sponges, and 51% used aprons. Environmental hygiene was stronger: 99.5% used disposable razors, 97.9% disinfectants, and 83.6% worked in tiled shops; however, only 56.9% had covered waste bins. Work experience was positively associated with knowledge ( $p=0.002$ ) and attitude ( $p=0.031$ ), but not with practice. Conclusion: Despite adequate knowledge and moderately positive attitudes, hygienic practices among Kabul barbers remain insufficient, reflecting a persistent gap between awareness and behavior. Structured training, affordable protective equipment, and stronger regulatory oversight are urgently needed to reduce infection risks and improve occupational hygiene.

**Keywords:** Knowledge, Attitude, Practice, Hygiene, Barbershop, Kabul, Occupational health, public health.

## **Assessment of Deaf People's Access to Health Services in Kabul City**

### **Background:**

Deaf people experience significant barriers in accessing healthcare due to communication difficulties, lack of sign language interpreters, and limited awareness among healthcare providers. In Afghanistan, with its fragile health system and scarce resources, understanding the challenges of deaf individuals is essential to promoting health equity.

### **Objective:**

To assess the level of access to health services among deaf people in Kabul City and to examine their satisfaction with these services.

### **Methodology:**

This analytical cross-sectional study included 91 teachers and students from deaf schools in districts 13 and 16 of Kabul. A census sampling method was applied. Data were collected through a structured questionnaire and analyzed using SPSS software.

### **Findings:**

More than half of the participants (52.7%) reported moderate access to healthcare services, while 39.6% reported poor access. The vast majority (86.8%) stated that doctors did not know sign language, and 78% always required an interpreter during consultations. Regarding satisfaction, 67% expressed moderate satisfaction. Significant associations were observed between access and variables such as gender, education level, and occupation, while no significant associations were found between demographic factors and satisfaction levels.

### **Conclusion:**

Deaf individuals in Kabul face limited access to healthcare, mainly due to communication barriers and the lack of inclusive services. To address these challenges, it is essential to train healthcare providers in sign language, employ interpreters in health facilities, and adopt inclusive health policies that promote equitable access for all.

**Keywords:** Deaf, Healthcare Access, Communication Barriers, Sign Language, Health Equity, Kabul

## **Delayed Diagnosed Case of Neonatal Intestinal Obstruction: A Case Report**

*Authors: Farshad Ameer, Mohammad Tareq Rahimi, Roohullah Hares*

### **Introduction:**

Small bowel obstruction is a common surgical emergency; however, in neonates, it may result from rare congenital or developmental anomalies. Such cases often present with nonspecific clinical features including vomiting, poor feeding, or irritability, which may overlap with more frequent neonatal conditions such as sepsis or gastroenteritis. This frequently leads to diagnostic delays. Surgical resection is the mainstay of treatment, and timely recognition is crucial to prevent morbidity.

### **Case Presentation:**

A late preterm, low birth weight neonate was brought to the emergency department on 25/12/2024 with poor feeding and persistent vomiting since birth. The infant had been admitted for 11 days at a private hospital for similar complaints and treated with undocumented intravenous and oral antibiotics. On arrival, the baby showed poor sucking, diminished tone, reduced activity and reflexes, and anemia. Neonatal sepsis was suspected, and conservative management was initiated in the NICU.

The infant re-presented on 13/01/2025 with persistent yellowish vomiting and irritability. Abdominal CT scan demonstrated mild small bowel wall thickening without clear evidence of obstruction. Based on clinical findings, partial intestinal obstruction was suspected, and the patient was taken for exploratory laparotomy. Intraoperatively, a mass-like lesion was identified in the terminal ileum, 2–3 cm proximal to the ileocecal valve. Approximately 8–10 cm of ileum containing the lesion was resected, followed by end-to-end anastomosis and protective loop ileostomy. Peritoneal fluid was sent for culture, and biopsy samples were submitted for histopathology.

### **Investigations:**

Histopathological examination revealed dilated lymphatic channels in the resected ileum, consistent with a rare congenital malformation of the intestine.

Management: The patient underwent surgical resection with ileo-ileal anastomosis and protective loop ileostomy. Postoperative recovery was uneventful, and the diagnosis was confirmed by pathology. The ileostomy was planned for closure after stabilization.

### **Conclusion:**

This case highlights the diagnostic challenges of rare congenital causes of neonatal intestinal obstruction, which may initially mimic neonatal sepsis and delay appropriate surgical management. Persistent vomiting in neonates warrants thorough evaluation for surgical causes. Early diagnosis and timely surgical intervention are critical for favorable outcomes.

## **A rare case of cerebral venous sinus thrombosis associated with Norethisterone in a patient with levothyroxine-induced subclinical hyperthyroidism**

*Authors: Mohammad Pazhman sediqi<sup>1\*</sup>, Diana jamalzaï<sup>1</sup>, Elaha Esmat<sup>1</sup>, Mohammad Ramin Hamidi<sup>1</sup>, Abdul wahed sidqi<sup>2,5</sup>, Nommanudien Naibkhi<sup>3,4</sup>, Mohammad Sharif sediq<sup>6</sup>*

### **Background:**

Cerebral venous sinus thrombosis (CVST) is a rare but serious manifestation of venous thromboembolism, accounting for 0.5-1% of all strokes. While typically affecting younger females, its diagnosis remains challenging due to nonspecific presentations. Known risk factors include hormonal therapies, thrombophilia, and hematologic disorders, with emerging associations including COVID-19, VITT, and PCOS.

### **Case presentation:**

A 27-year-old female with no prior thrombotic history who developed CVST following one month of norethisterone therapy for menstrual disorders while concurrently taking unsupervised levothyroxine. The patient presented with a 3-day history of severe headache, visual disturbances, and imbalance, initially misdiagnosed as gastritis. Notably, she had a family history of VTE and a COVID-19 vaccination. Diagnostic workup revealed hyperdense venous sinuses on CT, confirmed by MR venography as extensive thrombosis involving the superior sagittal, transverse, and straight sinuses. Laboratory tests showed marked TSH suppression ( $<0.005$   $\mu\text{IU/mL}$ ) but otherwise unremarkable findings.

Management included therapeutic enoxaparin, levetiracetam prophylaxis, and levothyroxine discontinuation. The patient demonstrated rapid clinical improvement within 24 hours, with near-complete radiographic resolution at one-month follow-up after transitioning to apixaban.

### **Conclusion:**

This case highlights three critical considerations: (1) norethisterone's underrecognized thrombogenic potential, (2) the diagnostic challenge of CVST amidst nonspecific symptoms, and (3) the importance of thorough medication reconciliation in young patients with neurological symptoms. Clinicians should maintain high suspicion for CVST in patients receiving progestogens, particularly those with additional risk factors such as thyroid dysfunction or family history of thrombosis.

**Keywords:** Cerebral venous sinus thrombosis, Hormonal therapy, Norethisterone, Progestin, Enoxaparin, Apixaban, Levothyroxine

## **Management of a complex anorectal malformation with rectovaginal fistula: A case report**

*Hamid Khaliqi, Mohammad Tareq Rahimi, Roohullah Hares*

### **Introduction:**

Anorectal malformations (ARM) are a spectrum of congenital anomalies that occur in approximately 1 in 4,000–5,000 live births. They can range from simple perineal fistulas to complex cloacal malformations. Surgical correction aims to restore anatomy and bowel function, but re-operative cases after multiple prior surgeries remain highly challenging. Complications such as fistula recurrence, scarring, and poor continence outcomes are common, and the success of surgery strongly depends on the expertise of the surgical team.

### **Case Presentation:**

A 9-year-old female presented to our outpatient department with lifelong stool incontinence and passage of stool through the vagina. She had a shy and depressed demeanor. The patient was born with an anorectal malformation, most likely a recto-vestibular fistula, and had undergone seven previous surgeries, including colostomy at age five, anoplasty, colostomy closure, re-colostomy, and Pena procedure at another hospital. On examination, two perineal openings were noted: the anus was stenotic, admitting only a size 3 dilator, while stool was observed exiting from the vaginal orifice.

### **Investigations:**

Colo gram demonstrated a rectovaginal fistula.

### **Management:**

The patient was planned for reconstructive surgery to address complications of prior procedures and improve quality of life. Intraoperatively, the rectum was found adherent to the mid-vagina with scars and adhesions. The posterior fistula appeared 4–5 cm from the anal verge and resembled an anus, while the true rectum communicated with the vagina. The rectovaginal fistula appeared to have been inadequately managed in previous surgeries. Careful dissection and reconstruction were performed to separate the rectum from the vagina and restore normal anatomy.

### **Conclusion:**

Complex ARM cases after multiple failed operations are extremely delicate. Incomplete dissection of rectum and vagina, inadequate separation, or scarring can lead to persistent fistulas and poor continence. Re-operative surgery should only be performed by highly experienced surgeons in specialized centers, as the outcome determines long-term bowel control and patient quality of life.

## **Urinary Tract Infection (UTI)**

### **Introduction:**

Urinary Tract Infection (UTI) refers to a microbial infection of any part of the urinary system, including the urethra, bladder, ureters, and kidneys, most often caused by the entry and proliferation of bacteria-particularly

Escherichia coli-in the urinary tract. Based on the site of involvement, UTIs are classified into the lower tract infection (such as cystitis) and upper tract infections (such as pyelonephritis). UTIs are common in children and, if left untreated, may lead to complications such as permanent kidney damage. The symptoms vary depending on age and site of infection, and may include fever, frequent urination, dysuria, flank pain, and irritability in children. Diagnosis is typically based on a combination of clinical signs, urinalysis, and urine culture, and treatment is administered with appropriate antibiotics.

### **Methodology:**

this study was conducted as a descriptive cross-sectional study at Maiwand Teaching Hospital among hospitalized children diagnosed with UTI during the year 1403 (Hijri-Shamsi calendar). Sampling was performed using the census method, and all documented UTI cases during that year were included. Data were collected from patients' medical records and analyzed using SPSS version 26. Descriptive statistics and the Chi-Square test were applied to examine associations between variables.

### **Objective:**

the aim of this study was to determine the prevalence of UTI, assess the clinical symptoms at the time of hospitalization, identify the age and gender distribution of affected children, investigate underlying medical conditions, and evaluate treatments with UTI in the pediatric ward of Maiwand Teaching Hospital.

### **Conclusion:**

the finding of this study indicates that UTIs are more common among hospitalized children-particularly girls, younger age groups, and those from low-income families. The disease pattern revealed a concentration of cases in children under five years of age and those with low body weight. Pyelonephritis and sepsis were among the most significant complications and comorbidities. Most patients recovered following intravenous antibiotic therapy with an average treatment duration of six days, and no mortality was recorded. These results underscore the importance of early diagnosis, appropriate management, and special attention to high-risk groups in reducing the disease burden.

**Keywords:** Urinary Tract Infection, children, underlying diseases, Maiwand Teaching Hospital, patients.

## **Gastric Duplication Cyst in a Young Patient: A Case Report from a Tertiary Surgical Center in Western Afghanistan**

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### **Background:**

Gastric duplication cysts are rare congenital malformations of the gastrointestinal tract, accounting for less than 5% of all alimentary tract duplications. Their nonspecific clinical presentation and variable anatomical location often delay diagnosis, particularly in low-resource settings.

### **Case Presentation:**

We present the case of a 3-year-old girl from western Afghanistan who exhibited chronic abdominal pain, poor appetite, and nausea. Ultrasonography revealed a cystic lesion adjacent to the stomach, and exploratory laparotomy confirmed a duplication cyst arising from the greater curvature, without communication with the gastric lumen. The cyst was excised completely with preservation of the stomach. Histopathological examination confirmed the diagnosis. The postoperative course was uneventful, and the patient demonstrated complete clinical recovery. This report highlights the critical role of clinical judgment, basic imaging, and timely surgical intervention in managing complex congenital gastrointestinal anomalies where advanced diagnostics are unavailable.

**Keywords:** Alimentary tract duplication; Congenital gastrointestinal anomaly; Gastric duplication cyst; Low resource settings; Pediatric abdominal mass; Surgical excision

## **Guillain-Barré Syndrome Associated with Autoimmune Hypothyroidism in a Pediatric Patient: A Rare Case Report**

*Dr. Wali Mohammad Arian*

### **Introduction:**

Guillain-Barré Syndrome (GBS) is an acute immune-mediated polyneuropathy characterized by progressive weakness and areflexia, with an annual incidence of 1 Guillain-Barré Syndrome Associated with Autoimmune Hypothyroidism in a Pediatric Patient: A Rare Case Report –2 cases per 100,000 population worldwide. Hypothyroidism is relatively common in pediatrics, but its association with GBS is extremely rare, with only isolated case reports available. We present a pediatric case of GBS associated with hypothyroidism to emphasize the importance of screening for autoimmune overlap in neuromuscular disorders.

### **Methods:**

A 13-year-old female presented with progressive lower limb weakness and difficulty in walking for two weeks. On physical examination, she had decreased deep tendon reflexes in the lower limbs. Laboratory investigations showed: Hb 14.8 g/dL, WBC 11,000/ $\mu$ L, platelets 306,000/ $\mu$ L, and normal CRP. Serum electrolytes, CPK, SGPT, creatinine, and vitamin D were normal. Thyroid studies revealed elevated anti-TPO antibodies (490 IU/mL), low T3 (0.96 ng/mL), and low T4 (8.57  $\mu$ g/dL), consistent with Autoimmune thyroiditis. Neck ultrasound was normal. Nerve conduction studies confirmed GBS.

**Results:**

The patient was diagnosed with GBS associated with Autoimmune thyroiditis. She received intravenous immunoglobulin (IVIg) and supportive care. The patient showed gradual neurological improvement with partial recovery of motor strength and is under follow-up for rehabilitation and thyroid monitoring.

**Conclusion:**

This case highlights the rare coexistence of GBS with Autoimmune thyroiditis in children. Although GBS occurs in approximately 1–2 per 100,000 populations annually, its overlap with autoimmune thyroid disease is extremely uncommon. Early recognition, timely IVIg therapy, and multidisciplinary management are crucial for improved outcomes. Clinicians should consider thyroid evaluation in pediatric patients with GBS, especially when autoimmune features are suspected.

**Keywords:** Guillain-Barré Syndrome, Hypothyroidism, Pediatrics, IVIg, Autoimmune disease

**Visceral Leishmaniasis Diagnosed on Bone Marrow Examination: A Case Series from FMIC Laboratory, Kabul, Afghanistan**

*Sarwar Anwari*

**Background:**

Visceral leishmaniasis (VL) is a neglected tropical disease and remains an important health problem in Afghanistan, particularly in provinces such as Badakhshan and Takhar. Bone marrow examination remains a valuable diagnostic tool in resource-limited settings.

**Methods:**

We retrospectively analyzed 13 cases of visceral leishmaniasis diagnosed at the Hematology and Pathology Laboratory of the French Medical Institute for Mothers and Children (FMIC), Kabul, from January 2022 to May 2025. Patient data including age, gender, province of origin, clinical features (fever, splenomegaly, hepatomegaly), hematological parameters, and bone marrow findings were collected and reviewed.

**Results:**

Of the 13 patients, 9 were male and 4 were female. The majority of cases originated from Badakhshan and Takhar provinces. All patients presented with prolonged fever and splenomegaly, while hepatomegaly was noted in a subset. Laboratory findings showed anemia in all cases, with leukopenia and thrombocytopenia in most patients. Bone marrow smears demonstrated macrophages containing numerous *Leishmania donovani* amastigotes, confirming the diagnosis. Treatment outcomes were available for several patients, of whom the majority recovered following anti-leishmanial therapy.

**Conclusion:**

This case series highlights the continued burden of visceral leishmaniasis in Afghanistan, with most cases from endemic northern provinces. Bone marrow examination remains a reliable method for diagnosis in our setting. Strengthening diagnostic capacity and timely treatment are crucial to reduce morbidity and mortality associated with VL.

# **Anesthetic Challenges in a High-Risk Obese Diabetic Patient Undergoing Prolonged CABG (Coronary Artery Bypass Grafting): A Case Report**

*Dr. Nasir Ahmad "Hakimi", Dr. Reshad "Akbari", Dr. Fernandez, Dr. Anush*

## **Background:**

Patients with obesity, diabetes mellitus, long-standing hypertension, and severe coronary artery disease undergoing coronary artery bypass grafting (CABG) represent a very high-risk population. These cases are associated with major anesthetic challenges, including hemodynamic instability after cardiopulmonary bypass (CPB), complex drug dosing, metabolic derangements, and increased perioperative morbidity.

## **Objective:**

To report the anesthetic management of a critically high-risk obese diabetic patient undergoing prolonged CABG, emphasizing the intraoperative and postoperative challenges faced by the anesthesia team.

## **Case Presentation:**

A 51-year-old obese female (91 kg) with poorly controlled type II diabetes and hypertension underwent elective CABG x2 to the left coronary system. An arterial line was inserted before induction. General anesthesia was induced with propofol, fentanyl, dexamethasone, and atracurium, followed by tracheal intubation and central venous catheter placement. Maintenance included isoflurane, continuous atracurium infusion, and low-dose adrenaline. After CPB, the patient developed severe hypotension requiring norepinephrine infusion in addition to adrenaline. Drug doses were adjusted using both total body weight (TBW) and ideal body weight (IBW). The surgery lasted nearly 10 hours, posing significant challenges for hemodynamic stability, anesthetic depth, and metabolic control.

## **Results:**

Intraoperative hemodynamics were stabilized with vasoactive support and careful monitoring. The patient was transferred intubated to the CICU. Postoperatively, marked hyperglycemia (>400 mg/dl) occurred, necessitating aggressive insulin therapy. No major intraoperative complications were noted.

## **Conclusion:**

This case illustrates the complex anesthetic challenges in high-risk cardiac surgery, where obesity, diabetes, hypertension, and prolonged CPB collectively increase perioperative risk. Successful management required invasive monitoring, individualized drug dosing, dual vasoactive support, and strict glycemic control. Multidisciplinary teamwork was crucial to achieving a favorable outcome in this critically ill patient.

## **Keywords:**

CABG, obesity, diabetes mellitus, hypertension, anesthesia challenges, vasoactive drugs, high-risk surgery

## Dengue Fever

*Jaber Samimy*

### **Introduction:**

Dengue fever is a vector-borne, notifiable and preventable communicable disease. That occurs in tropical and subtropical areas of the world, is considered to be a significant threat for the mankind in both developing and developed countries. WHO recommended the best way to prevent dengue endemic is to provide knowledge about dengue and preventive measure to people. Despite the efforts to prevent dengue virus, recent national survey data indicates that prevalence of dengue among population is still on the rise.

### **Objective:**

assess the Awareness of university students regarding to dengue and preventive measures, to know association of awareness about dengue determinants of knowledge of dengue infection in students of Kabul University of Medical Sciences Abu Ali Ibn Sina.

### **Method:**

A cross-sectional study was conducted by using random sampling technique. Data were collected using a validated, self-administered questionnaire which consist of six sections namely socio-demographics factors, source of information, general information about dengue, sign and symptoms of dengue, Treatment of dengue, and prevention of dengue. Data was analyzed using IBM Statistical Package for Social Science (spss) version 26 comprising descriptive, bivariate, and multivariate analysis and level of significant was set  $p < 0.05$ .

### **Result:**

A total of 323 respondents were involved with the response rate of 97%. The mean of age of respondents was  $21.77 \pm 1.945$  years old. The study found that students had weak knowledge about dengue, 48.1% students had general knowledge of dengue and 41.1% had awareness general information and 10.8% students were aware of its mode of transmission and had good knowledge. In multivariate analysis, knowledge of dengue significantly differed by age, field of study and grade number ( $p > 0.05$ ) those all do not have influence on awareness of students.

### **Conclusion:**

In conclusion, about more than half of study population had good knowledge about dengue fever. about less than half of students had weak awareness about dengue fever. Therefore, these groups need special attention in the future health education programs. students with knowledge of the disease more frequently reported the use of preventive measure than the others. In addition, this study recommends a concerted effort by all stakeholders to increase knowledge of people about dengue which can in turn decrease the risk of dengue infection.

**Keywords:** Dengue virus, Awareness; University students; Kabul University of Medical Sciences Abu Ali Ibn Sina.

## **Lab Confirmed Typhoid fever outbreak in Kafshan village, Shinwari district of Parwan province, September 2024**

*Authors: Ahmad Tawfiq Saleh<sup>1</sup>, Mir Salamuddin Hakim<sup>2</sup>, Khwaja Mir Islam Saeed<sup>2</sup>, Mohebullah shabab<sup>3</sup>*

### **Background:**

Typhoid fever is an acute infectious disease caused by *Salmonella Typhi*, which is transmitted through contaminated water and food. It is common in developing countries, particularly in areas with weak health infrastructure. This study was conducted with the aim of investigating the prevalence and demographic and clinical characteristics of patients with typhoid fever who visited Antani Hospital in 2024.

### **Objective:**

To determine the prevalence of typhoid fever and to assess its distribution by age, sex, occupation, economic status, marital status, place of residence, and clinical symptoms among patients with typhoid fever attending Antani Hospital in 2024, in order to provide scientific evidence for preventive measures and improvement of diagnostic and therapeutic approaches.

### **Materials and Methods:**

This was a descriptive cross-sectional study based on 369 medical records of patients who visited Antani Hospital in 2024. Data were collected using a standardized checklist including demographic information (age, sex, occupation, marital status, economic condition, and place of residence) and clinical symptoms of patients. After coding, the data were entered into SPSS and Excel software and analyzed using descriptive statistics.

### **Findings:**

Out of a total of 369 patients, 63 (17.1%) were diagnosed with typhoid fever. Most of the patients were in the 15–22 years age group and were predominantly male (20.3%). In terms of occupation, the highest prevalence was found among students (22.2%). Regarding economic status, the prevalence of the disease was higher in the group with better economic condition compared to other groups. The most common symptoms included fever (98.2%), headache and dizziness (73%), weakness and loss of appetite (57.1%), and nausea (49.2%). Most patients improved after hospitalization.

## Urinary Bladder Duplication: A rare case report

Nawaz Sharif Kashaf, Mohammad Tareq Rahimi, Roohullah Hares

### Introduction:

Bladder duplication is an extremely rare congenital anomaly of the urinary system, occurring more frequently in boys. It can be classified as: (1) complete duplication of the bladder and urethra, (2) incomplete duplication of the bladder with a single urethra, (3) complete sagittal septum, and (4) incomplete sagittal or frontal septum. These anomalies lack specific clinical features and are often suspected when associated external anomalies are present. Symptomatic patients usually present with nonspecific signs such as urinary tract infection, urinary obstruction, or impaired renal function.

### Case Presentation:

A two-month-old boy was brought to our outpatient clinic with irritability since birth. On physical examination, a palpable left suprapubic mass was noted, along with two separate meatal openings and bilaterally empty scrotum. Urine was passing from the distal meatus but not from the proximal opening.

Abdominal ultrasound revealed a septate cystic lesion in the lower abdomen, possibly of mesenteric origin. CT scan showed a well-defined, thick-walled cystic lesion on the left side of the pelvis, measuring 4.5 × 4.2 × 4.3 cm (TR × AP × CC), with resultant mild to moderate left hydronephrosis. Intraoperatively, a cystic mass was identified on the left side of the urinary bladder in the coronal plane. It was not connected to the ureters but was attached to the bladder neck and communicated with a separate urethra. The lesion was completely excised.

### Conclusion:

Bladder duplication is a rare congenital anomaly with variable presentations. This case emphasizes the importance of considering bladder duplication in infants presenting with atypical urinary symptoms and pelvic cystic lesions. Early diagnosis and complete surgical excision are essential to prevent recurrent infections, obstruction, and renal impairment.

## Isolated Primary Orbital Hydatid Cyst in Two Pediatric Patients: A Rare Case Report, Afghanistan

Authors: Jamalliden Mudafi<sup>1</sup>, Abdull Basir Mesbah<sup>2</sup>, Khwaja Mir Islam Saeed<sup>3</sup>, Mohammad Ashraf Mohsan<sup>4</sup>

### Background:

Orbital hydatid cyst is a rare manifestation of echinococcosis, comprising less than 1% of hydatid disease. It most frequently affects the pediatric population and typically presents as a slowly enlarging orbital mass, causing progressive proptosis, restricted ocular motility, diplopia, and occasionally visual impairment.

### Case presentation:

Hereby, we present two pediatric cases from Afghanistan with one patient had right eye proptosis and diplopia: the other presented with left upper eyelid swelling and ptosis. Imaging revealed medial intraconal cystic lesions in both cases. Surgical excision via medial orbitotomy was performed; one cyst ruptured intraoperatively and was managed with scolicedal irrigation, while the other was removed intact. Histopathology and postoperative serology confirmed the diagnosis. Albendazole therapy was administered, and no recurrence was observed during 12- and 24-months follow-up. These cases underscore the importance of considering hydatid cysts in

the differential diagnosis of orbital masses in endemic regions and highlight the role of early imaging and careful surgical management, and is particularly uncommon in children.

**Keywords:** Hydatid cyst, Orbit, Pediatric case, Echinococcosis, Surgery, Afghanistan

## **Knowledge, Attitude and Performance Regarding Breast Self-examination among Students of Medical Institutes**

*Rohullah Sakhi<sup>1</sup>, Fazel Ahmad Muhammadi<sup>1</sup>, Mohadeseh Ahmadi<sup>2</sup>, Sayed Abdul Wahab Sadat<sup>1</sup>, Noorullah Noori<sup>1</sup>, Ismail Fazili<sup>1</sup>, Muslim Muradi<sup>1</sup>, Arash Nemat<sup>3</sup>*

### **Objectives:**

The aim of this study was to assess knowledge, attitude and practice related to BSE among female students of Ibn Sina, Mellat and Jamal al-Shafa medical institutes in Kabul, Afghanistan. Breast cancer is the second most common cancer among women worldwide. Breast self-examination (BSE) is an affordable and easy way to detect breast cancer early. In developing countries with existing unfavourable social, economic and cultural conditions, BSE may be the most effective tool for the prevention and timely diagnosis of breast cancer.

### **Material and Methods:**

This cross-sectional study was conducted between August and December 2023. It included a sample of 354 students selected using a stratified and systematic sampling method. Data were collected using a standard questionnaire derived from a literature review. The Statistical Package for the Social Sciences version 26 software was used for analysis and descriptive statistics, and Chi-square tests were also performed.

### **Results:**

Out of 354 students, 347 students (98%) participated in the study. The age range was between 17 and 40 years, with a mean of 21.0 and a standard deviation of 2.9. This study found that only 28.8% had good knowledge, 25.9% had average knowledge, and 76.7% had average attitudes toward BSE. In addition, 22.8% of the participants had performed BSE, and 11.5% had a family history of breast cancer. The majority (66.3%) had heard about BSE before. Statistically significant relationships were found between the patterns of knowledge and the field of study and academic semester ( $P = 0.001$ ) and between the level of attitude and the field of study ( $P = 0.008$ ), academic semester (0.003) and type of knowledge (0.001).

Conclusion:

This study showed that the participants had poor knowledge and average attitudes regarding BSE. Therefore, it is important to fill the gap between knowledge and practice through effective and systematic educational and media programs.

**Keywords:** Attitude, Breast cancer, Breast self-examination, Knowledge, Practice

## **Anesthetic Management of Arnold-Chiari Malformation Type 1: A Case Report**

Authors: [Mohammad Karim Sharif] [FMIC, Anesthesia Department, Kabul, Afghanistan] [Mohammad.karim@fmic.org.af]

### **Background:**

Arnold-Chiari Malformation Type 1 (ACM-1) is a congenital hindbrain anomaly involving downward displacement of the cerebellar tonsils through the foramen magnum. This condition presents unique challenges for anesthetic management, particularly during neurosurgical interventions.

### **Case Presentation:**

We present the case of a 30-year-old male with ACM-1 scheduled for foramen magnum decompression and duraplasty. The patient exhibited a short neck and small stature, complicating airway management and necessitating advanced intubation techniques. Intraoperative care focused on optimal patient positioning, vigilant hemodynamic monitoring, and precise fluid and blood loss replacement to maintain ideal intracranial pressure (ICP) and cerebral perfusion. The surgery proceeded without complications. The patient was extubated in the operating room and transferred to recovery in stable condition. He was discharged one week later with no neurological deficits.

### **Conclusion:**

This case underscores the importance of thorough preoperative evaluation, multidisciplinary coordination, and individualized anesthetic planning in patients with ACM-1. Anticipating airway difficulties and maintaining cerebral homeostasis are critical to ensuring surgical safety and favorable outcomes.

**Keywords:** Arnold-Chiari Malformation Type 1; Foramen Magnum Decompression; Duraplasty; General Anesthesia; Airway Management

## **Prostate Cancer**

### **Background:**

Prostate cancer is one of the most common malignancies affecting men worldwide, with incidence increasing with age. In developing countries such as Afghanistan, the absence of systematic screening, limited public awareness, and lack of early diagnostic services contribute to a high rate of late-stage diagnosis. Furthermore, the scarcity of epidemiological data limits evidence-based health planning.

### **Objective:**

To determine the prevalence, demographic characteristics, diagnostic stage, and histopathological type of prostate cancer among male patients at the National Cancer Diagnosis and Treatment Hospital (Ibn Sina) in the year 1403.

### **Method:**

This study was conducted as a descriptive cross-sectional study at (Ibn Sina) Hospital among male cancer patients whose cancer were registered in 1403. The census sampling method was applied, including all registered prostate cancer cases among male patients during the study year. Data were collected from medical records and analyzed using SPSS version 26. Descriptive statistics and the Chi-square test were used to assess associations between variables.

**Result:**

Out of 1,122 male cancer cases, 35 (3.12%) were diagnosed with prostate cancer. The mean age of patients was 63.74 years, with the majority aged 65–74. Adenocarcinoma was the predominant histological type (94.3%), and 80% of patients were diagnosed at stage III or IV. A significant relationship was found between age and stage of diagnosis ( $P=0.002$ ). Moreover, 60% of patients were economically disadvantaged, and 88.6% were unemployed.

**Conclusion:**

The findings reveal that prostate cancer in Afghanistan is frequently diagnosed at an advanced stage. Lack of screening programs, poor awareness, and economic hardship are key contributing factors. Implementation of nationwide screening, public education initiatives, and enhancement of diagnostic services is urgently needed to improve prostate cancer outcomes in the country. Keywords: Prostate cancer, Prevalence, Diagnostic stage, Adenocarcinoma

**How Artificial Intelligence (AI) helps radiologists prepare enhanced reports.**

*Fakher Ahmad Amirzad*

**Introduction:**

The radiologists usually spend a long time analyzing the images in order to diagnose and rule out any abnormality. Despite having human resources available, the radiologists are dealing with many patients' images to detect any irregularity and get the patients' reports prepared accurately on time with precision. Meanwhile, AI can be a helpful tool to help radiologists augment their work in a time-saving manner.

**Objective:**

This study aimed to evaluate the role of artificial intelligence in making a difference in the workflow of the radiologists at the FMIC. The focus is on analyzing the ways through which artificial intelligence could be an asset to help the radiologists function well.

**Method:**

I gathered the data through interviewing radiology residents, radiology consultants, and medical officers at the Radiology Department of FMIC.

**Results:**

The results indicate that AI can help the radiologists with the speed of image analysis. AI would generate primary reports based on its algorithm and pattern. This will help the radiologists to spend less time preparing the patients' reports and focus more on complex cases. Now, it takes around twenty-four hours for the MRI and CT scan patients to receive their exam results at the radiology department. With the help of an accredited AI system, the number of hours could decrease and would buy the radiologist more time. For instance, one of the radiology residents at FMIC used ChatGBT on round-shaped opacity in the lower lobe of the left lung without contrast enhancement in a neonate. He was given four possible answers with in-depth details. He chose the right answer appropriately without spending much time.

**Conclusion:**

The use of AI can enhance the workflow of the radiologists at FMIC. AI can save the radiologists' time preparing patients' reports. AI offers a number of possible findings based on its algorithm and given input. This will save radiologists time and help them select their desired results and modify them accordingly.

**Reducing Alarm Fatigue and Improving Patient Safety in Critical Care Units, FMIC Hospital Kabul Afghanistan**

*Hashima Majidi, Mukhtar Alim*

**Background:**

Alarm fatigue is a critical challenge in intensive and critical care units, where frequent and non-actionable alarms may desensitize staff, leading to delayed responses and potential harm to patients. This study aimed to evaluate the prevalence of alarm fatigue among healthcare workers and to assess the effectiveness of an educational intervention in reducing alarm fatigue.

**Objectives**

1. To identify the prevalence of alarm fatigue among healthcare staff in ICU, NICU, and Cardiac units.
2. To assess the impact of alarm fatigue on patient safety and staff performance.
3. To implement an educational intervention aimed at reducing alarm fatigue.
4. To evaluate the effectiveness of the intervention in improving staff response to alarms.
5. To promote patient safety by minimizing alarm fatigue and enhancing timely clinical responses.
6. To reduce alarm-related stress and fatigue among healthcare workers, thereby improving their comfort and well-being at work.

**Methods:**

A randomized interventional study was conducted among 50 healthcare staff working in the ICU, NICU, and Cardiac units. Data were collected using a validated questionnaire and pre-observation of alarm responses. In the pre-observation phase, the proportion of negative responses to alarms was recorded as follows: ICU 80%, NICU 9%, and Cardiac 25%. An educational program focusing on alarm fatigue, its consequences, and strategies to manage it was then delivered to staff. Post-intervention observation was carried out to assess changes in alarm response behavior.

**Results:**

Following the educational intervention, there was a significant improvement in alarm response. In the NICU, alarm response compliance reached 100%, in the Cardiac unit it increased to 93.3%, and in the ICU, it improved to 85%. Randomization of participants strengthened the reliability of the findings by reducing selection bias.

**Conclusion:**

The study demonstrated that structured educational interventions are highly effective in reducing alarm fatigue and improving staff response to alarms in critical care areas. Incorporating regular training and awareness programs can enhance patient safety and reduce risks associated with alarm fatigue. Randomization further supports the validity of these results and highlights the potential for broader application across similar healthcare settings.

## **Cystoscopic Assessment and Surgical Outcomes in Rare Urogenital Sinus Malformations: Experience from a pediatric surgery center**

*Authors: Mohammad Tareq Rahimi, Roohullah Hares*

### **Introduction:**

Urogenital sinus (UGS) malformation, also referred to as persistent urogenital sinus (PUGS), is a rare congenital anomaly of the urogenital tract characterized by abnormal fusion of the urethral and vaginal openings. PUGS may present as an isolated defect or as part of complex syndromes and is frequently associated with congenital adrenal hyperplasia (CAH).

### **Case presentation:**

This study presents three rare and complex cases of PUGS with ambiguous genitalia, highlighting the diagnostic role of cystoscopy in anatomical assessment and the surgical strategies employed for successful management.

### **Clinical Discussion:**

Imaging techniques are essential for confirming the diagnosis of PUGS; however, diagnostic cystoscopy provides additional accuracy in determining the length and configuration of the sinus, aiding in the selection of optimal surgical approaches.

### **Conclusion:**

These cases emphasize the critical role of cystoscopy in the evaluation of urogenital sinus malformations and underscore the importance of early diagnosis and timely, carefully planned surgical intervention. Given the rarity and complexity of PUGS, multidisciplinary expertise is essential to achieve favorable outcomes.

## **Thiamine Mitigates Nicotine Withdrawal Effects in Adolescent Male Rats: Modulation of Serotonin, BDNF, Oxidative Stress, and Neuroinflammation**

*Murtaza Haidary, Elham Akbari*

### **Introduction:**

Adolescent nicotine use is a major public health concern due to heightened vulnerability to dependence and long-term neurobiological alterations during this developmental stage. Nicotine withdrawal often triggers anxiety, depression, and anhedonia, driven by neurochemical and neuroinflammatory changes. This study aimed to investigate the potential therapeutic effects of thiamine in alleviating behavioral and neurobiological consequences of nicotine withdrawal in adolescent rats.

### **Methods:**

Male adolescent rats were administered nicotine (2 mg/kg, s.c.) for 21 days, followed by 21 days of withdrawal. Thiamine was administered intraperitoneally at 25 mg/kg or 50 mg/kg during both nicotine exposure and withdrawal. Behavioral assessments included validated tests for anxiety-, depression-, and anhedonia-like behaviors. Biochemical assays of the prefrontal cortex (PFC) measured oxidative stress markers, serotonin levels, monoamine oxidase (MAO) activity, brain-derived neurotrophic factor (BDNF), and glial fibrillary acidic protein (GFAP) expression as indicators of neuroinflammation.

### **Results:**

Nicotine withdrawal induced significant behavioral impairments, including heightened anxiety, depressive-like symptoms, and reduced reward sensitivity. These changes were accompanied by increased oxidative stress, elevated MAO-A activity, and upregulated GFAP expression in the PFC. Thiamine treatment significantly improved behavioral outcomes, restored serotonin levels, reduced oxidative stress, and suppressed GFAP overexpression. Notably, thiamine alone also demonstrated anxiolytic and antidepressant-like properties.

### **Conclusion:**

Thiamine administration effectively counteracted nicotine withdrawal-induced behavioral and neurobiological disturbances in adolescent rats. By restoring serotonergic balance, reducing oxidative stress, and attenuating neuroinflammation, thiamine demonstrated a broad neuroprotective role. These findings highlight its potential as a safe, low-cost, and accessible therapeutic option for managing nicotine withdrawal-related psychiatric symptoms, particularly in adolescents who are at elevated risk for relapse and long-term dependence. Future studies should explore thiamine's mechanisms in greater detail, assess its efficacy in chronic models of addiction, and evaluate translational potential in clinical populations.

## **Congenital partial Pan hypopituitarism; A case report**

*Dr. AbdulJamil Rassooly*

### **Objective:**

Hypopituitarism denotes underproduction of 1 or multiple pituitary hormones. Affected children have postnatal growth impairment and other endocrine deficiencies that are specifically corrected by hormone replacement. The incidence of congenital hypopituitarism is thought to be between 1 in 4,000 and 1 in 10,000 live births. The etiology is likely multifactorial and may involve interaction between genetic and environmental factors. In the vast majority of cases, no single gene defect can be identified. Mutations in 7 candidate genes account for 13% of isolated growth hormone deficiency (IGHD) and 20% of multiple pituitary hormone deficiency (MPHD) cases. The likelihood of finding mutations is increased by consanguinity and occurrence in siblings or across generations;

### **Methodology:**

A 5.5-year-old girl with a body weight of 8.3 kg and a height of 73 cm was brought to the FMIC Pediatric OPD Clinic with the chief complaints of recurrent seizures, occurring intermittently in the morning for the past 2.5 years, and failure to grow properly since birth. Her electrolyte levels were within the normal range, and an electroencephalogram (EEG) was normal. A bone age assessment revealed a bone age of 2.5 years. A brain MRI showed a relatively small pituitary gland with a thin pituitary stalk. Based on these findings and lab investigations, the patient was diagnosed with pan hypopituitarism. Growth hormone with hydrocortisone therapy were initiated, a follow-up scheduled by pediatric endocrinologist abroad.

### **Conclusion:**

- High level of deep thinking and suspicious based on clinical presentations are needed for endocrine diseases in children.
- Establishing and working on pediatric subspecialties are crucial for better treatment and managements of our needy children in our country.
- GH deficiency is the most observed hormone deficiency, and other anterior pituitary hormone deficiencies are less common.
- Growth failure and hypoglycemia (cortisol deficiency) indicate congenital partial pan hypopituitarism.

**Keywords:** Hypopituitarism, Growth failure, hypoglycemic fits, partial pan hypopituitarism

## **Assessment of student's knowledge for hygiene and food safety in Kabul Medical University.**

**Background:** Hygiene and food safety are important elements for preventing diseases and keeping the environment free from pollution. Most of today's diseases are related to food contamination or food poisoning, which remains one of the major challenges for Ministries of Public Health in many countries around the world. The root cause of these problems is often a lack of awareness regarding hygiene and food safety. The current study aims to assess the level of knowledge about hygiene and food safety among students at Kabul Medical University.

**Objective:** To assess the students' knowledge about hygiene and food safety at Kabul Medical University.

**Method of Research:** This study used a descriptive cross-sectional design and collected data through systematic random sampling among 339 students.

**Results:** The study was conducted among 339 students at Kabul Medical University. The participants were categorized into three knowledge levels: 124 students (37.2%) had good knowledge, 173 students (52%) had moderate knowledge, and 36 students (10.8%) had poor knowledge about hygiene and food safety. Overall, the analysis showed that individuals with a history of food poisoning had lower knowledge about hygiene and food safety. Secondly, those who had not attended any educational sessions on hygiene and food safety also had limited knowledge. In conclusion, it is recommended that the government provide educational courses on hygiene and food safety for students.

**Key Words:** Knowledge, food hygiene, and food safety, Students, Kabul University of Medical Sciences.

## **Investigation of the Effects of Afghan Chelghoza (Pine Nuts) on Blood Lipid Levels in Rats**

*Hossain Rezayee*

### **Introduction:**

Hyperlipidemia is one of the most important risk factors for cardiovascular diseases, stroke, and fatty liver disease. In recent years, the use of natural compounds, medicinal plants, and therapeutic seeds has gained attention as alternatives to pharmacological treatments. The aim of this study was to evaluate the effects of Afghan Chelghoza (pine nuts) on the lipid profile in rats.

### **Methods:**

In this experimental study, 30 male Wistar rats were first induced with hyperlipidemia by being fed a high-fat diet for eight weeks. The animals were then divided into five groups: normal control, high-fat control, and three experimental groups receiving 6%, 12%, and 25% Chelghoza incorporated into the high-fat diet, respectively. After four weeks of intervention, serum levels of triglycerides, total cholesterol, LDL, and HDL were measured.

### **Results:**

The high-fat diet significantly increased triglycerides, total cholesterol, and LDL compared to the normal control group ( $P < 0.001$ ). The 25% *Chelghoza* dose significantly reduced triglycerides ( $P < 0.01$ ) and LDL ( $P < 0.05$ ). The 12% dose showed no statistically significant effect. Interestingly, the 6% dose unexpectedly led to an increase in triglycerides and a decrease in HDL ( $P < 0.01$ ).

**Conclusion:**

The findings suggest that consumption of Afghan Chelghoza at appropriate doses can improve lipid parameters and exert hypolipidemic effects. This indigenous edible seed, due to its bioactive compounds including unsaturated fatty acids and antioxidants, may serve as an effective and safe option for the prevention and management of hyperlipidemia. However, its effects are highly dose-dependent, and inappropriate intake may produce adverse outcomes. Further studies in human models are necessary to confirm these findings.

**Mucocele in the Ventral Surface of the Tongue in an Afghan Girl**

*Said Ahmad Sorosh Miri, Yahya Fayaz*

**Introduction:**

Mucoceles are benign cystic lesions of the oral mucosa that typically arise from either extravasation or retention of saliva due to minor trauma or obstruction of salivary gland ducts. They are most commonly observed on the lower lip but can occur throughout the oral cavity, including the floor of the mouth, buccal mucosa, and ventral surface of the tongue. Mucoceles on the ventral tongue are rare and often overlooked during routine oral examinations because of their asymptomatic and subtle presentation. Despite their benign nature, these lesions can impair oral function, causing difficulties in speech and mastication, and may generate aesthetic or psychological concerns for patients. Early recognition and management are essential to prevent functional limitations and reduce the risk of recurrence.

**Case Report:**

A 23-year-old Afghan woman presented with a painless, bluish swelling on the ventral surface of her tongue, which had gradually enlarged over several weeks. The lesion caused mild difficulties in speaking and eating, prompting clinical consultation. On examination, the lesion appeared soft, well-circumscribed, and consistent with a mucocele. Surgical excision was performed under local anesthesia, with complete removal of the cyst and associated minor salivary gland tissue to minimize recurrence risk. The procedure was uneventful, and the patient reported resolution of functional difficulties. Follow-up at 20 days' post-surgery confirmed complete healing with no recurrence.

**Conclusion:**

This case underscores the importance of identifying mucoceles in uncommon locations such as the ventral tongue. While benign, these lesions can cause functional impairment and patient concern. Timely diagnosis, appropriate surgical excision, and careful follow-up are critical to ensure complete resolution and prevent recurrence. Increased clinician awareness of rare presentations can improve early detection, optimize management, and enhance patient outcomes. Such cases highlight the need for thorough oral examination and consideration of mucoceles in differential diagnoses of ventral tongue swellings.

## **Successful PCI of a Non-Dominant Right Coronary Artery in a Young Patient with Acute Coronary Syndrome: A Case Report**

*Dr Sher Ahmad*

### **Introduction:**

Coronary dominance refers to which artery gives rise to the posterior descending artery; approximately 85% of individuals are RCA-dominant. In a non-dominant RCA, the vessel is smaller and supplies mainly the right ventricular branches. Lesions in ndRCA are often considered less clinically significant; however, they can cause substantial ischemia and myocardial injury. We report this case to emphasize that PCI may be indicated even for ndRCA lesions when culprit physiology is evident.

### **Case Presentation:**

A 38-year-old male smoker with dyslipidemia presented with severe retrosternal chest pain lasting several hours. Initial evaluation revealed elevated troponin levels. ECG showed ST-segment changes consistent with inferior ischemia. Echocardiography demonstrated preserved left and right ventricular function without wall motion abnormalities. Coronary angiography revealed a small non-dominant RCA with 90–95% proximal stenosis and normal left coronary circulation. Given severe symptoms and biomarker elevation, PCI was performed via radial access using a JR4 guiding catheter and BMW wire. A 2.5×12 mm drug-eluting stent was deployed successfully. Final angiography demonstrated TIMI grade 3 flow without complications. The patient's symptoms resolved completely, and he was discharged on dual antiplatelet therapy, statin, and beta-blocker.

### **Discussion:**

Coronary dominance does not always correlate with the clinical impact of a lesion; culprit lesion physiology and ischemic burden are crucial. Although ndRCA supplies a limited myocardial territory, critical proximal lesions can lead to ACS. Previous literature has documented similar cases with favorable PCI outcomes. Small-vessel PCI carries risks including dissection and perforation; appropriate lesion preparation and stent sizing are essential. This case reinforces the principle of treating the patient rather than relying solely on angiographic appearance.

### **Conclusion:**

Non-dominant RCA lesions can be clinically significant. In ACS patients, PCI should be considered based on culprit physiology, regardless of vessel dominance. This case demonstrates that individualized decision-making can lead to excellent clinical outcomes.