



# Abstracts



**14<sup>th</sup> FMIC Annual International Scientific Conference & 14<sup>th</sup> Quality Convention**

**“Improve Together: Accessibility, Quality, Innovation and Sustainability”**

**November 14, 2024**

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& 14<sup>th</sup> Quality Convention**

**“Improve Together: Accessibility, Quality, Innovation and Sustainability”**

**November 14, 2023**

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## **Acknowledgement**

The organizing committee of FMIC's 14th Annual International Scientific Conference and 14th 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.

Thank you for your continued commitment to elevating healthcare standards and accessibility for all in Afghanistan.

## Message from Chief Executive Officer

Dear Participants,

On behalf of the Board and Management of FMIC, it is my pleasure to warmly welcome you to the 14th Annual International Scientific Conference and Quality Convention.

FMIC embodies a unique collaboration between the governments of Afghanistan and France, the Aga Khan Development Network, and our esteemed French partner, La Chaîne de l'Espoir. Despite the challenges we face, our commitment to serving Afghanistan remains steadfast, backed by the unwavering support of our partners, donors, and well-wishers. We take pride in having reached the significant milestone of serving over 2 million patients across the country. Our Postgraduate Medical Education (PGME) program offers specialized training in nine fields, including three that are exceptionally rare in Afghanistan. We consistently strive for excellence in healthcare, demonstrated by our SafeCare certification, which we achieved with a remarkable 99% success rate. As we continue to raise the standards of healthcare in Afghanistan, we also pledge to prioritize environmental conservation and seek your collaboration in this vital mission.

Since 2011, FMIC has organized annual conferences that emphasize the critical insights of Afghan healthcare professionals. This year's theme, "Improve Together: Accessibility, Quality, Innovation, and Sustainability," reflects our ongoing commitment to advancing healthcare. The sub-themes cover essential areas such as Patient Rights, Safety and Medical Ethics, Reproductive, Maternal, Newborn, and Child Health, Nutrition, Water and Sanitation, Mental and Social Health, Communicable Diseases and Immunization, Non-Communicable Diseases, Health System Strengthening, Nursing and Midwifery Education and Professional Development, Health Professions Education and Accreditation, Environmental Health, Digital Health and Technological Advancement, as well as Disaster Management and Emergency Preparedness.

This event signifies an important step in our mission to share knowledge and turn challenges into opportunities for the Afghan people.

Thank you for being here. We hope you find this conference both enriching and inspiring.

Best regards,  
Aziz Ahmad Jan  
Chief Executive Officer, FMIC

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## Conference Program

Theme	Presentation
<b>Session 1</b> <b>Neonate and Child Health</b>	Efficacy and Outcomes of Non-Invasive Ventilation in Neonatal Intensive Care Units for Respiratory Distress at a tertiary care hospital in Kabul, Afghanistan
	Association of Congenital Heart Disease (CHD) among the neonate with their maternal diabetes, a retrospective study at NICU-FMIC in one year
	Prevalence and Determinants of Malnutrition Among Children Under Five in Afghanistan: Insights from the 2022-23 MICS
	The Effects of Dual-strain Probiotics on the Weight Gain in Premature Neonates of Kabul City: A Randomized Clinical Trial
	Evaluation Of Macronutrient Composition and Fat/Oil Quality in High-Fat Snacks Consumed by Children Aged 6-24 Months
	Newborn Responsive Parenting Education in Primary Healthcare Afghanistan through Midwives and Lady Health Workers: A Model of Integrating New Services in Maternal Health
	Descriptive Epidemiology of Cleft Lip and Palate in a Tertiary Hospital in Kabul, Afghanistan, 2023
	Using CALMS Criteria for Pediatric Population to Review Readiness for Extubation from Mechanical Ventilation
	Hemorrhagic ulcerative gastric lymphangioma in an infant: A case report
<b>Session 2</b> <b>Quality and Patient safety</b>	Reduce delays in Patient Arrival for Surgery to improve patient satisfaction in a tertiary care hospital in Kabul, Afghanistan
	Evaluating Afghanistan's National PGME Program: Aligning with International Standards for Strategic Improvement
	Factors Contributing to Leaving Against Medical Advice (LAMA): A Consideration of the Patients' Perspective
	Impact of Educational Attainment on Health Outcomes Among Women in Afghanistan: Insights from the MICS 2022-23
	Knowledge, Attitude and Practice of Blood Donation among students at Kabul University of Medical Sciences
	Medical waste management practices: The cases of Ali Abad and Maiwand Teaching Hospitals in Kabul, Afghanistan
<b>Session 3</b> <b>Public Health and Communicable Disease</b>	Reasons of polio vaccine refusal among families in Kunduz, Faryab and Jawzjan provinces of Afghanistan, 2024
	Clinical and demographic profile of children hospitalized with measles infection in Kabul
	Knowledge about Human Papilloma Virus (HPV) infection and attitude towards HPV vaccination among healthcare workers in secondary and tertiary care hospitals of Karachi
	Uptake of COVID-19 vaccination and related factors among the adult population, Parwan province, Afghanistan, 2022
	Bacterial Isolates and their Antimicrobial Susceptibility patterns among pediatric patients with urinary tract infections: A retrospective cross-sectional study at tertiary level in Afghanistan
	Knowledge, Attitude, and Practices Toward Tuberculosis Among Health Faculty and Non-Health Faculty Students of Kabul University and Kabul University of Medical Sciences, Kabul, Afghanistan

	Comparative Assessment of Stool Antigen and Serum Antibody Tests of Helicobacter Pylori Infection among Symptomatic Patients at a Tertiary Hospital in Kabul, Afghanistan (2023): A Cross-Sectional Study
	Immunization coverage among under-two years children of returnee families from Pakistan to Afghanistan, 2024
	Knowledge, attitude, and practice (KAP) of COVID-19 vaccines among healthcare workers in four provinces of Afghanistan, 2024
<b>Session 4</b> <b>Non-Communicable Disease</b>	Revolutionizing in Medicine: Enhancing Precision, Predictive Analysis, Surgical care and Patient Outcomes Through Artificial Intelligence
	Surgical Management and Clinical Outcome of Spine Tuberculosis at FMIC, Kabul
	Treatment of Congenital Cleft Foot Case Report at French Medical Institute for Mothers and Children (FMIC), Kabul, Afghanistan
	Results of clubfoot management using the Ponseti method among children in Afghanistan
	Comparison of Mesiodistal Root Angulation of Teeth by Conventional Panoramic and Cone Beam Computed Tomography Images: A Cross-sectional Study
	Characteristic of patients underwent surgery for chronic tonsillitis in a tertiary care hospital in Kabul, Afghanistan
	Prevalence of DMFT Among Dentistry Students at a Private Medical University
	Risk factors associated with esophageal cancers, diagnosed at tertiary level in Afghanistan: a descriptive cross-sectional study
	Primary hydatid cyst of the urinary bladder with associated eosinophilic cystitis: Report of a unique case
	Investigation of the prevalence of Premenstrual Syndrome Among Students of Mellat Institute of Health Science
<b>Session 5</b> <b>Mental Health and Well-being</b>	Implementation Research on Suicidal Behavior
	Assessment of Mental Health and Psychosocial Support (MHPSS) Learning Needs and Gaps Among Community Health Workers and Psychosocial Counselors in Afghanistan
	Integrating Mental Health and Psychosocial Support into the Community-Based Education Program in Afghanistan
	Assessing Primary Healthcare Professionals' Awareness and Understanding of the Relationship Between Climate Change and Mental Health in Pakistan: A Cross-Sectional Study
<b>Session 6</b> <b>Reproductive and Maternal Health and Nursing</b>	Evaluation of risk factors and etiology of infertility among infertile patients who underwent laparoscopy for tubal causes
	Knowledge, Attitude and Practice (KAP) of Females regarding breast cancer in Cure hospital Kabul, 2023
	Analyzing Trends in Maternal and Neonatal Health Outcomes: Insights from Three Years of Data at Malalai Hospital
	Pregnant women's health literacy in Kabul- Afghanistan
	Factors Associated with Preterm Premature Rupture of Membranes: A Case-Control Study in a Tertiary Hospital in Kabul, Afghanistan
	Comparison of application of partograph components before and after training in the OGBYN department of FMIC hospital









**Oral Presentations**

**Scientific Sessions**

**Abstracts**

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## **Session 1**

### **Neonate and Child Health**

# **Efficacy and Outcomes of Non-Invasive Ventilation in Neonatal Intensive Care Units for Respiratory Distress at a tertiary care hospital in Kabul, Afghanistan**

*Maqbula Sehar<sup>1</sup>, Mohammad Naim Rehmat<sup>2</sup>, Yasmin Hashwani<sup>1</sup>, Dr. Omid Faiz<sup>3</sup>, Dr. Sarfraz Karim<sup>3</sup>, Wais Mohammad Qaran<sup>2</sup>*

## **Introduction:**

Respiratory distress is a common and critical condition in neonates requiring prompt and effective respiratory support. In the NICU, Non-Invasive Ventilation (NIV) has emerged as a preferred alternative to invasive mechanical ventilation, aiming to reduce the risk of ventilator-associated complications while providing adequate respiratory support.

## **Objective:**

This study aims to evaluate the efficacy, safety, and outcomes associated with the use of NIV in neonates with respiratory distress in the NICU setting, based on data collected from August 2023 to July 2024.

## **Methods:**

A retrospective cohort study was conducted, analyzing data from neonates admitted to the NICU with respiratory distress who were managed with NIV. Parameters such as duration of NIV, need for escalation to invasive ventilation, and overall neonatal outcomes (e.g., survival rates, length of hospital stay) were assessed. Additionally, the study examined the factors influencing the success of NIV, including gestational age.

## **Results:**

During the study period, there were 756 total NICU admissions (73.54% male, 26.46% female) with 268 neonates (35.45%) requiring ventilation. Of these, 161 (75.16% male, 24.84% female) were managed with NIV. Among the NIV group, 144 (89%) neonates survived, while 17 (11%) did not survive. Immediate escalation to invasive ventilation was necessary within 24 hours for 15 (9.3%) patients. The data shows that 65 (40.30%) preterm, 94 (58.40%) term, and 2 (1.24%) post-term infants received NIV support. The overall Length of Stay (LOS) for neonates managed with NIV was 4.3 days whereas the average LOS of all NICU patients was 4.93, reflecting a favorable outcome compared to previous years that is 5.2. The gestational age of neonates included 208 (27.53%) preterm, 540 (71.42%) term, and 8 (1.05%) post-term infants managed in NICU. These results demonstrate that the use of NIV in the NICU has significantly reduced the need for invasive mechanical ventilation and has been associated with shorter hospital stays and lower complication rates, especially in post-Extubating care.

## **Conclusion:**

Non-invasive ventilation is a safe and effective approach for managing respiratory distress in neonates in the NICU, offering significant benefits in reducing the need for invasive ventilation and associated complications especially for post Extubating management. The study underscores the importance of early identification and management of neonates suitable for NIV, particularly those with higher gestational ages. Future studies should aim to optimize NIV protocols and further identify the most suitable candidates for this intervention to improve neonatal outcomes.

**Keywords:** Non-Invasive Ventilation (NIV), Neonatal Intensive Care Unit (NICU), Respiratory Distress, Survival Rate, Length of Stay (LOS), Neonatal Outcome.

## **Association of Congenital Heart Disease (CHD) among the neonate with their maternal diabetes, a retrospective study at NICU-FMIC in one year**

*Dr. Omid Ahmad Faizi, Neonatologist consultant, Head of NICU-FMIC, Dr. Haji. Mohammad Shaheer neonatologist, FMIC and Mrs Maqbula Sahar Head nurse of NICU-FMIC.*

### **Introduction:**

Congenital Heart Disease (CHD) is the most common lesion among all types of neonatal disease in the world. CHD is defined as a gross structural abnormality of the heart or intra-thoracic great vessels which are potentially of functional significance. Studies found that the incidence of CHD varies from 4/1000 to 50/1000 live birth and the relative frequency of different types of major form of CHD differs with variety of case context especially in stillbirth, spontaneous abortion and prematurity. It is frequently reported that the CHD incidence is either constant or increasing worldwide. There is no nationwide survey on congenital heart disease of neonate children in Afghanistan. There are nine common lesions that constitute the 80% of the CHD where 36% Ventricular Septal Defect (VSD), 5% Atrial Septal Defect (ASD), 9% Patent Arterial Duct (PDA), 9% Pulmonary Stenosis, 5% Aortic Stenosis, 5% Coartation of Aorta, 4% Transposition of Great Arteries, 4% Tetralogy of Fallot etc.

### **Objective:**

The purpose of this study is to find the incidence of congenital heart disease among the neonate with maternal diabetes.

### **Methods:**

We performed a retrospective study, and it was conducted at the Neonatal Intensive Care Unit of the French Medical Institute for Mothers and Children Hospital in Kabul City, Afghanistan during (01/01/2023-30/12/2023). Statistical analysis was performed by SPSS v24.

### **Results:**

The presented odds ratio showed the likelihood of the event occurring due to the other independent variables. The study hypothesized that CHD is a function of the mother's characteristics and household characteristics. There is a statistically significant association present between the CHD of neonatal children (within 28 days of age) and the mother's diabetes. It shows that if the mother had GDM, the aged mother tends to have the child with CHD higher than a young, aged mother, mother's weight is also found to have a significant negative association with the CHD of the child. All these results are controlled for all other variables such as family income, the number of pregnancies, the record of family, hypertension, birth trimester, mother's doing exercise, weight of child, and correction of diabetes of mother etc.

### **Conclusion:**

The present investigation identified that, the association between the neonatal congenital heart diseases and the mother's diabetic status based on some clinical and observational data from 78 randomly selected patients who got admitted to the (NICU) during the study period. This result shows that there was a positive association among CHD and mother's diabetes, age, and having unwanted events.

## **Prevalence and Determinants of Malnutrition Among Children Under Five in Afghanistan: Insights from the 2022-23 MICS**

*Dr. Mohammad Yaseen Hakimi, Dr. Mohammad Afzal Khosti, Dr. Mohammad Hashim Tahiri, Dr. Said Mohammad Rahim Niazy  
Cheragh Medical Institute*

### **Introduction:**

Malnutrition among children under five remains a critical public health issue in Afghanistan, reflecting broader socio-economic challenges. The 2022-23 Afghanistan MICS aims to provide essential data to guide policy interventions focused on improving child nutrition and reducing malnutrition rates.

### **Methods:**

The Afghanistan MICS 2022-23 utilized a cross-sectional household survey design to collect data on a wide range of health, nutrition, and socio-economic indicators. Conducted in collaboration with UNICEF, the survey encompassed a nationally representative sample of 23,568 households, with a near-complete response rate of 99.8%. The analysis focused on the nutritional status of children under five, specifically examining the prevalence of stunting, wasting, underweight, and overweight.

### **Results:**

The survey results reveal a critical malnutrition situation among Afghan children under five. Approximately 44.7% of children were found to be stunted, indicating chronic malnutrition, with 21.7% severely stunted. Wasting, a marker of acute malnutrition, was observed in 3.7% of children, with severe wasting present in 1.2%. Furthermore, 18.4% of children were underweight, and 5.6% severely underweight. Notably, 4.5% of children were classified as overweight, reflecting a growing concern of overnutrition alongside widespread undernutrition. The prevalence rates varied significantly by region, with rural areas showing higher rates of stunting and wasting compared to urban areas, and by socio-economic status, with children from poorer households experiencing higher levels of malnutrition.

### **Conclusion:**

The findings of the 2022-23 Afghanistan MICS underscore the urgent need for comprehensive and targeted nutritional interventions. Addressing both acute and chronic forms of malnutrition requires a multi-faceted approach, including improving access to nutritious food, enhancing healthcare services, and promoting education on optimal feeding practices. The robust data provided by this survey offer a critical foundation for informing national policies and programs aimed at reducing the burden of malnutrition among Afghan children. Continued monitoring and research are essential to assess the impact of these interventions and to guide future efforts in combating malnutrition.

Reference: United Nations Children's Fund (UNICEF). Afghanistan Multiple Indicator Cluster Survey 2022-2023: Survey Findings Report. Kabul, Afghanistan: UNICEF; May 2023

# **The Effects of Dual-strain Probiotics on the Weight Gain in Premature Neonates of Kabul City: A Randomized Clinical Trial**

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<sup>2</sup>Unit of Neonatology, Malalai Maternity Hospital, 4<sup>th</sup> district, 1004, Kabul, Afghanistan

## **Introduction:**

Prematurity is prevalent worldwide and accounts for the leading cause of neonatal death. Preterm neonates face numerous challenges, including slow weight gain, prolonged hospital stays, and high mortality. Dual-strain probiotics can manage such complications of prematurity. Therefore, the present study was conducted to evaluate the effectiveness of dual-strain probiotics consisting of *Bifidobacterium bifidum* and *Clostridium butyricum* on the weight gain of preterm neonates in Kabul City.

## **Methods:**

This randomized clinical trial was conducted at the Neonatal Units of Malalai Maternity and Maiwand Teaching Hospitals in Kabul City. Finally, 84 preterm neonates were assessed for the effects of dual-strain probiotics. The clinical parameters were daily weight gain and the risks of feeding intolerance and neonatal mortality. Statistical analysis was performed by SPSS v26.

## **Results:**

Forty-two premature neonates in the probiotics group and another forty-two preterm babies in the control group were investigated. In the probiotic group, 250mg or  $25 \times 10^8$  CFU of dual-strain probiotics dissolved in 1-3 ml milk were given twice daily for three weeks. At the time of intervention, the preterm neonates in the probiotics versus control group had a mean age of ( $7 \pm 3.3$  vs  $6.8 \pm 3.3$  days;  $P=0.69$ ), weight of ( $1497.5 \pm 272$  vs  $1483.3 \pm 271$  g;  $P=0.8$ ) and gestational age of ( $33.6 \pm 2$  vs  $33 \pm 2.4$  weeks;  $p=0.31$ ). Gender distribution in the probiotics group was (boys 54.8%, girls 45.2%) and in the control group it was (boys 50%, girl 50%). The premature newborns in the probiotics versus control group had a higher mean daily weight gain ( $15.5 \pm 9.4$  vs  $10 \pm 7.9$ g;  $P=0.001$ ), lower mean age to reach full enteral feeds ( $8.74 \pm 3.08$  vs  $10.81 \pm 3.43$  days,  $P=0.005$ ) and lower mean hospital stays ( $10.02 \pm 4.68$  vs  $12.81 \pm 4.86$  days,  $P=0.009$ ). The risk ratios of feeding intolerance and mortality during the hospital stays were ( $RR=0.59$ ,  $P=0.71$ ) and ( $RR=0.67$ ,  $P=0.5$ ) in probiotics and non-probiotics groups respectively.

## **Conclusion:**

Dual-strain probiotics significantly improved the daily weight gain and decreased the time to full enteral feeding and admission days for premature neonates.

## Evaluation Of Macronutrient Composition and Fat/Oil Quality in High-Fat Snacks Consumed by Children Aged 6-24 Months

Sanam Iram Soomro<sup>1</sup>, Shazia Chohan<sup>2</sup>, Najma Memon<sup>2</sup>, Sarfaraz Mahesar<sup>2</sup>, Sheraz Ahmed<sup>1</sup>, Fayaz Umrani<sup>1</sup>, Asad Ali<sup>1</sup>

<sup>1</sup>Department of Community Health Science, Aga Khan University, Karachi

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### Introduction:

High-fat snacks like chips, cookies, and pastries are widely popular due to their taste and convenience, but they come with significant concerns about their nutritional value. These snacks often contain oils that are high in saturated and trans fats, which are linked to cardiovascular diseases, obesity, and metabolic disorders. Understanding the macronutrient content and oil quality in these snacks is essential for making better dietary choices and promoting healthier alternatives.

### Objective:

This study aimed to evaluate the nutritional composition and fat quality of high-fat snacks consumed by children aged 6 to 24 months in Sindh, Pakistan. The focus was on assessing the fatty acid composition, trans fats, and oxidation levels (PoV and P-Av) of these snacks to understand the associated health risks and standards.

### Methods:

A survey was conducted in Matiari district as part of the SEEM project (2016-2019), which followed 416 children aged 6 to 24 months. Dietary information was gathered through a 24-hour recall. The study evaluated 111 high-fat snack items, including biscuits, chips, cakes, and nimko. These snacks were analyzed for their macronutrient content and oil quality using standard methods (AOAC and AOCS).

### Results:

The findings showed that 44% of the children consumed biscuits most frequently, followed by 18% who ate chips, 14% who ate cakes, and 6% who consumed nimko. Biscuits had the highest moisture content (over 5%), chips had the highest oil content (33.2%), and the protein content ranged from 4.9% to 9.0%. The study also highlighted oil oxidation in these snacks, with cakes showing the highest oxidation levels (8.5–41.1) and nimko the lowest (10.31–19.92). Trans-fatty acids were detected in biscuits and cakes but were absent in chips and nimko. The fatty acid analysis indicated that hydrogenated oils, rich in saturated fats, were used, particularly in choco-chip biscuits.

### Conclusion:

The study revealed that many high-fat snacks consumed in lower and suburban areas of Sindh are made with low-quality, oxidized oils, leading to the presence of harmful compounds like trans fats. These poor-quality snacks pose potential risks to children's digestive health and growth, highlighting the need for healthier snack alternatives.



# **Newborn Responsive Parenting Education in Primary Healthcare Afghanistan through Midwives and Lady Health Workers: A Model of Integrating New Services in Maternal Health**

*Shelina Bhamani, Ghulamuddin Delawar, Babasher Basharat, Misbah Shams, Kiran Aslam, Sara Fahim*

## **Introduction:**

The first 1000 days of life have a profound impact on the health and development outcomes of a child. Responsive caregiving construed as sensitive, relevant, and timely responses to child's needs and desire during early years have proven to have compelling effects on child's cognitive development and overall well-being. Despite efforts being made in the field, the rural areas of Afghanistan lack promotion of responsive caregiving in the healthcare settings. Lady health workers and midwives serve as cornerstones of healthcare in such communities helping to directly educate families on responsive parenting techniques, creating a nurturing atmosphere for children and bridging the gap of knowledge in these areas.

## **Objective:**

A feasibility study model using implementation research approach was employed. This current research is one of the arms that aimed to explore the feasibility of establishing midwife and lady healthcare worked led early childhood newborn responsive parenting intervention in the remote healthcare settings of Afghanistan, investigate the challenges faced by these workers in the field and explore future potential scalable pathways.

## **Method:**

The data was collected using in-depth and focus group interviews from different healthcare providers and leaders in the field.

## **Results:**

The results stipulate that nurse, midwives and LHVs can be trained to scale this intervention. However, there are many challenges pertinent to their compensation, the geographical outreach, locally available health education materials, lack of community socio-economic support to access the services and lack of inclusion of nurturing care components in nursing curriculum. Besides, also there are no clinical competencies that talk about parenting education in the current work scope of the healthcare centers offering maternal health services.

## **Conclusion:**

These results offer meaningful direction for advancing nursing practice for health education and promotion and leveraging their potential to translate early childhood development in healthcare settings

# **Descriptive Epidemiology of Cleft Lip and Palate in a Tertiary Hospital in Kabul, Afghanistan, 2023**

*Said Olfat Hashemi<sup>1</sup>, Suraya Aizadpanah<sup>1</sup>, Zainab Ezad<sup>2</sup>*

*<sup>1</sup>Cure Hospital, Kabul, Afghanistan*

*<sup>2</sup>Areta Aramak Research Organization, Kabul, Afghanistan*

## **Introduction:**

Cleft lip and palate are congenital anomalies with varied prevalence, risk factors, and demographic characteristics. This study aimed to describe the epidemiological patterns of cleft lip and palate in a tertiary hospital in Kabul, Afghanistan.

## **Methods:**

A descriptive, cross-sectional study was conducted among patients with cleft lip and/or palate. Data on demographic characteristics, types of clefts, associated anomalies, and potential risk factors were collected and analyzed using IBM SPSS V26.0.

## **Results:**

Out of the total 267 cases, 55.8% were males and 44.2% were females, indicating a slight male predominance. Among cleft lip cases, left unilateral clefts were most common (33.0%), followed by two-sided clefts (23.6%), and right unilateral clefts (15.7%). Complete cleft lips were more frequent (58.8%) than incomplete clefts (13.5%). For cleft palate, complete clefts were predominant (60.7%), while soft cleft palates accounted for 13.9%. Submucosal clefts and uvula bifid were rare (1.9% and 0.4%, respectively). Alveolar involvement was observed in 60.3% of cases. Additional congenital anomalies were uncommon (1.5%). Consanguineous marriage was identified in 56.6% of cases, and a family history of cleft lip and palate was present in 29.2%, suggesting genetic predisposition. Smoking and drug use were negligible risk factors (0.4% each). Demographically, 81.6% of mothers were uneducated, and the most affected ethnic groups were Pashtoon (41.9%), Tajik (30.3%), Hazara (18.4%), and Uzbek (6.0%). The mean maternal age was 30.1 years. Gender differences were observed; complete cleft lips and palates were more frequent in males (33% and 35.2%, respectively) than females (25.8% and 25.5%).

## **Conclusion:**

This study highlights the significant epidemiological characteristics of cleft lip and palate in Kabul, including prevalence patterns, potential genetic risk factors, and demographic associations. The findings underscore the need for targeted public health interventions and genetic counseling to mitigate these anomalies.

**Keywords:** Cleft lip, Cleft Palate, Congenital Abnormalities, Consanguinity, Afghanistan

## Using CALMS Criteria for Pediatric Population to Review Readiness for Extubation from Mechanical Ventilation

*Yasmin A. Hashwani, Sunita Baadur, Sheliza Saleem, Dr. Naveed Ur Rehman, Naureen Lalani, Dr. Qalab Abbas*

### **Introduction:**

Mechanical ventilation (MV) is a critical life-saving intervention for children in the pediatric intensive care unit (PICU). However, prolonged MV increases the risk of nosocomial infections, morbidity, and extended hospital stays. To address these risks, early and safe extubation is essential. This study assessed the effectiveness of using the CALMS criteria, which focus on neurological status, airway patency, oxygenation, muscle strength, and secretions, to evaluate extubation readiness and reduce the rate of reintubation.

### **Methods:**

A structured extubation checklist based on the CALMS criteria was implemented in the PICU from October to December 2019. Training sessions were provided to all healthcare staff to ensure adherence. Data were collected between January 2020 and June 2024, including a retrospective comparison with pre-intervention outcomes from January to September 2019. Inclusion criteria covered all PICU patients with planned extubation, while those with withdrawn life support were excluded. The effectiveness of the intervention was analyzed through changes in reintubation rates.

### **Results:**

During the study period, there were 2,927 PICU admissions, and 1,103 (38%) required mechanical ventilation. Of these, 802 (72.7%) were successfully extubated using the CALMS criteria. However, 32 (4%) patients were reintubated, primarily due to respiratory distress or failure caused by neurological disorders or cardiopulmonary arrest related to cardiac disease. The reduction in reintubation rates was statistically significant ( $p < 0.05$ ).

### **Conclusion:**

The use of CALMS criteria significantly improved extubation outcomes, reducing reintubation rates and enhancing patient safety in the PICU.

**Keywords:** Pediatric Intensive Care Unit (PICU), Mechanical Ventilation, CALMS Criteria, Extubation, Reintubation, Patient Safety, Morbidity, Critical Care.

## **Hemorrhagic ulcerative gastric lymphangioma in an infant: A case report**

*Mohammad Amin Shinwari, Mohammad Tareq Rahimi, Abdul Wahab Amanat, Haseeb Rahman, Soghra Khaliqi, Nawaz Sharif Kashaf, Roohullah Hares*

### **Introduction:**

Lymphangioma is a congenital malformation, mostly presenting in the head and neck during early childhood. Its occurrence in the stomach is exceedingly rare with no reported cases in infants to date. Due to its often-asymptomatic nature and the limitations of radiological investigations in providing a definitive diagnosis, gastric lymphangioma poses significant diagnostic and therapeutic challenges in pediatric patients.

### **Case presentation:**

A 6-month-old infant was brought to the emergency department with a three-day history of poor sucking, fever and feeding intolerance. Also, she has been suffering from frequent nonbilious vomiting and hematemesis for two months. An upper GI study revealed a dilated stomach and duodenum extending to its distal part, indicating a duodenal obstruction. Laparotomy revealed a band between the duodenum and jejunum causing mild stenosis in the distal duodenum, which was subsequently released. Additionally, a cystic mass was found within the stomach involving the body and two-thirds of the antrum, with evidence of surface ulceration and surrounding inflammation. The mass, along with any suspicious tissue was completely excised and sent for histopathological examination. The stomach was then repaired from the fundus to the antrum using a sleeve-like procedure. The diagnosis was subsequently confirmed by histopathological report.

The patient showed favorable outcome during the 18-month follow-up period, with well tolerating feed and progressing with weight gain.

### **Conclusion:**

Gastric lymphangioma poses both diagnostic and surgical challenges in infants. Although rare in this population, it should be considered in patients presenting frequent vomiting and hematemesis.

**Keywords:** Lymphangioma; Stomach; Infant; case report.

### **Abbreviations:**

CT scan: Computed tomography scan

GI: Gastro-intestinal



## **Session 2**

### **Quality and Patient Safety**

# **Reduce delays in Patient Arrival for Surgery to improve patient satisfaction in a tertiary care hospital in Kabul, Afghanistan**

*Gul Pari Nazari, Dr Abdullah Yousofzai, Zakia Hassani, Munira Ramzi, Wais Mohammad Qarani*

## **Introduction:**

Prolong waiting periods before a procedure leads to inappropriate fasting of the patients, dissatisfaction of the family of the patient and the quality of care gets suboptimal. This issue is more pronounced in pediatric setting where parents always have concerns about their child's health. Besides that, complains are raised by the surgeons and anaesthesiologists for not receiving the patient on time. Therefore, it is important to determine factors contributing towards delayed patient arrival for procedure and design interventions accordingly.

## **Objective:**

This project aimed to determine contributing factors to delayed patient arrival for procedure; and design interventions to reduce delays.

## **Methods:**

We used PDSA cycle to conduct this project. The project was conducted based on the practice that most of the surgery patients were delayed during transfer to OT. Data were collected pre-project and post-project using a checklist containing numerous indicators. The patient preparation policy was revised, and staff were trained focusing on the predetermined indicators. Data were analysed and presented descriptively.

## **Results:**

A total of 170 samples were taken during July 2024; the data was collected to identify the cause of delay in the transfer of patients. Then for two weeks the revised policy was introduced and applied in surgical ward for transfer of the patient. During the post project period, another 170 samples were taken to determine improvements in practice.

The pre-project data revealed that there were 21 (12%) delays in the transfer of patients to OT among them 11 (6.4%) patients delayed as the patient was not premedicated in time. Other reasons for delay included absence of investigation report (2.35%), absence of consent form 4 (2.35%) and surgical site not being marked 2 (1.2%). Furthermore, the average delay time was 12.3 minutes in every case.

The post-project data revealed that, delay was reduced both in terms of number to 5 (2.9%) and in terms of time to 2.9 minutes. In the post-project period, there were 2 (1.2%) cases where investigation reports were missing; in 1 (0.5%) case there was absence of consent form; and 2 (1.2%) cases of premedication not given.

## **Conclusion:**

With proper implementation of the policy guideline and effective communication among staff, delays can be reduced reasonably, which can play a great role in the patient satisfaction. Staff orientation is vital to ensure compliance with the guidelines.

# **Evaluating Afghanistan's National PGME Program: Aligning with International Standards for Strategic Improvement**

*Dr. Khalilullah Shefa, MD. MHPE, FAIMER fellow. Academic PGME Manager at FMIC*

## **Introduction:**

The Postgraduate Medical Education (PGME) program, established in 1964, has trained over 7,000 specialized doctors in Afghanistan. With 38 programs across 11 provinces and 2,792 enrolled doctors, it is the largest PGME initiative in the country. Supported by the Ministry of Public Health and various partners, it plays a crucial role in advancing healthcare standards and career progression.

## **Problem Statements:**

Afghanistan lacks a high-quality, recognized medical education system, crucial for producing competent medical graduates and ensuring safe, quality healthcare. The PGME program has not been evaluated against well-designed standards, leaving its current status unknown.

## **Evaluation Objective:**

The areas of the PGME organization evaluated were Mission and values, Curriculum, Assessment, Postgraduate doctors, Teachers and clinical supervisors, Education and training resources, Quality improvement, Governance and administration.

## **Methods:**

Applying the WFME (2023) 31 main standards that composed 203 sub-standards to the PGME program. Data is organized and analyzed in MS Excel worksheets. The methods include interviews, document reviews, and leveraging past observations and experiences. The rating scale categories are fulfilled, partially fulfilled, not fulfilled, and not applicable.

## **Results:**

Our strengths: our program meet 29 out of 203 sub-standards. opportunities: 92 out of 203 sub-standards show some progress and are the opportunities for us to improve the activities and thus add to our strengths. Our weakness: 77 out of 203 sub-standards show our weakness that needs to be developed properly. The threats: regarding those PGME functions that are not applicable, our status is 5 out of 203 sub-standards, however it shows low threats.

## **Conclusion:**

The areas identified as under process or not fulfilled require significant improvement and development. If these issues are not addressed seriously, they could pose threats to the future of the PGME program. The evaluation highlights gaps within the program and underscores the importance of adopting international standards as a strategic approach to enhance and strengthen the PGME program.

# Factors Contributing to Leaving Against Medical Advice (LAMA): A Consideration of the Patients' Perspective

Marufa Muradi, Dr. Nijatullah Safi, Wais Mohammad Qarani, Ismatullah Mirzaei

## Introduction:

One of the challenges in healthcare is patients' decision to Leave Against Medical Advice; which may end up in unfavorable outcome. It is critical to comprehend the reasons behind patients' decisions to depart from the hospital against medical advice. Therefore, this study aimed to explore factors contributing to the decision of patients to leave the hospital against medical advice.

## Objective:

The purpose of this study was to determine contributing factors that result in patient's decision to leave against medical advice; and design strategies to eliminate preventable factors.

## Methods:

A descriptive study design was used to collect information from 318 patients who have already left against medical advice during three months in 2024. Patients' data was collected using a checklist, clinical records, nursing unit reports, and direct telephone calls to patients. ERC exemption was taken from the institutional Ethics Committee. Measures were in place to ensure confidentiality of the medical records and the data. The data was analyzed using MS Excel; and presented descriptively.

## Results:

The number of patients discharged against medical advice during the study period was 318 out of 2379 admissions; among which 55.03% were male and 44.96% were female. According to the age category, the majority (28%) were infants, and 24% were adults. More than 65% of the patients were residents of Kabul. 38.99% of the patients' diagnosis changed at the time of LAMA. The average length of hospital stay was 3.6 hours ranging from 1 hour - 720 hours. 55 patients transferred internally, where 69% were transferred from critical areas to the general ward. 21.38% of the patients' condition improved at the time of LAMA; while 78.61% of the patients had critical conditions but still decided to leave against medical advice. The main reasons patients seek LAMA were; financial constraints (44.20%), having family/ personal problems (31.47%), poor treatment outcome (11.16%), dissatisfaction from service (7.59%), lack of information/communication issues (2.9%), refused procedure/treatment (1.34%), and others (1.33%). The distribution of LAMA cases according to their attending physician, caring nurses and area of their admission were related; and were high in pediatric medicine and then adult medicine ward. Interventions were designed to address those which were under the control of the hospital.

## Conclusion:

Leaving against medical advice remains a prevalent problem, with burden on patients' outcome, economy, and hospitals' resources. Investigating the current situation; and being aware of the factors can be useful in planning to reduce the rate of LAMA, make patients more satisfied, and improve the quality of services. Certain strategies can be effective in mitigating patients leaving against medical advice.



# **Impact of Educational Attainment on Health Outcomes Among Women in Afghanistan: Insights from the MICS 2022-23**

*Sohaila Walian, Zhala Hayeri*

## **Introduction:**

Education plays a critical role in enhancing women's health outcomes. This relationship is influenced by various socioeconomic, cultural, and environmental factors that affect access to education and healthcare services. The Multiple Indicator Cluster Survey (MICS) 2022-23 in Afghanistan, conducted by UNICEF.

## **Objective:**

To explore the impact of women's education on their health status and access to healthcare services.

## **Methods:**

Data was extracted from the Afghanistan MICS 2022-23, focusing on women aged 15-49 with data collected from 44,341 eligible women across 23,213 households. The survey utilized standardized questionnaires to gather information on health practices, access to healthcare services, and educational participation.

## **Results:**

Key findings from the MICS 2022-23 indicate that 98.8% of women aged 15-49 were successfully interviewed. Approximately 64% received recommended antenatal care, and 89% of births were attended by skilled health personnel, although only 50% had postnatal check-ups within the first week. Literacy among women was reported at 37%, with 78% of girls enrolled in primary education, but only 22% completed secondary schooling.

A notable correlation was found between education level and health indicators: women with secondary education were significantly more likely to receive adequate antenatal care (75%) and skilled attendance during delivery (92%) compared to those with no formal education (45% and 80%, respectively). Additionally, 65% of educated women accessed postnatal care, versus only 30% of uneducated women. These findings highlight the critical need for targeted interventions to improve both health access and educational attainment, especially in rural areas.

## **Conclusion:**

The MICS 2022-23 underscores the urgent need for enhanced health services and educational opportunities for women in Afghanistan. The data generated will aid in formulating evidence-based policies aimed at improving women's health outcomes and promoting gender equity in education, thus contributing to the achievement of Sustainable Development Goals (SDGs).

**Keywords:** Women's health, Education, MICS, Reproductive health, SDGs, Afghanistan

## **Reference:**

*United Nations Children's Fund (UNICEF). (2023). Afghanistan Multiple Indicator Cluster Survey 2022-23: Survey Findings Report. Kabul, Afghanistan: UNICEF*

# **Knowledge, Attitude and Practice of Blood Donation among students at Kabul University of Medical Sciences**

*Refat Hanifi, BSPH*

*Research Officer, Research Department, HealthNet TPO, Kabul-Afghanistan*

## **Introduction:**

Blood donation is a vital medical practice that saves countless lives, particularly in conflict-affected regions like Afghanistan, where daily casualties create a high demand for blood. Despite advancements in medical technology, no synthetic substitute for human blood exists, underscoring the critical need for voluntary donations.

## **Objective:**

This study aims to evaluate the knowledge, attitudes, and practices (KAP) regarding blood donation among undergraduate students at Kabul University of Medical Sciences.

## **Methods:**

A cross-sectional descriptive study was conducted from September to December 2022. The study sample comprised 375 students from Kabul University of Medical Sciences, selected through convenience sampling method. Data were collected through a validated 25-item questionnaire and analyzed using SPSSv26, assessing participants' KAP related to blood donation.

## **Results:**

The study achieved an 84.8% response rate, with 318 completed questionnaires. Among the respondents, 46.4% demonstrated good knowledge of blood donation, 50.7% had average knowledge, and 2.9% exhibited poor knowledge. Notably, 82.7% of participants had a positive attitude towards blood donation. However, only 19.2% (61 students) had ever donated blood, highlighting a low culture of donation. The primary motivation for donating blood was altruism, cited by 98% of donors, while the most common reason for not donating (79% of non-donors) was that they had never been asked to donate. Significant associations were found between age and knowledge ( $p=0.02$ ), and gender and blood donation ( $p=0.00$ ).

## **Conclusion:**

The study's findings indicate that while the attitude towards blood donation among medical students is generally positive, their knowledge is moderate, and their actual donation practices are insufficient. The significant associations between age and knowledge ( $p=0.02$ ), and gender and blood donation ( $p=0.00$ ), suggest targeted educational interventions could enhance blood donation rates. These results emphasize the necessity for comprehensive awareness campaigns and educational programs to improve knowledge and encourage blood donation practices among medical students.

# **Medical waste management practices: The cases of Ali Abad and Maiwand Teaching Hospitals in Kabul, Afghanistan**

*Hussain Faramarz, Dr. Abdullah Abed*

## **Introduction:**

Lack of an appropriate management practice of healthcare waste is a potential threat to healthcare workers, patients, and nearby communities of the health Institutions. This study aimed to assess the current healthcare waste management practices among healthcare workers of Ali Abad and Maiwand Teaching hospitals of Kabul city, Afghanistan.

## **Methods:**

Non-Probably, Quota Sampling, was used to enrolled 230 healthcare workers (both sex, age 18-68) from Ali Abad and Maiwand Teaching hospitals in Kabul, Afghanistan. The study utilized a structured questionnaire (demographics, measuring waste generated, collection, treatment, and disposal of medical solid wastes). A non-participatory observational survey was also conducted to ascertain the information collected through the structured questionnaire.

## **Results:**

None of the hospitals do not measure the waste generated in the hospital. About 43% of the respondents had received formal training on proper handling of medical solid waste. Waste segregation at source and the use of color-coded waste receptacle were not strictly followed. The availability of green, yellow, and red waste bins was 100%, 31%, and 32% respectively. None of hospitals do not have a standard temporary waste storage area and all types of wastes are transported together to the outside of the hospitals. There are not any treatment and disposal methods of medical wastes. Less than half (49.1%) of the respondents expressed they always used personal protective equipment and about 46.5% of the respondents sustained different degrees of sharp injuries.

## **Conclusion:**

These findings indicate the urgent need to strengthen waste management foundations, increase specialized training for staff and improve protective equipment to prevent the health and environmental risks of medical waste.

**Keywords:** Medical waste, hospital, Waste management, hazardous, healthcare.

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## **Session 3**

### **Public Health and Communicable Disease**

# Reasons of polio vaccine refusal among families in Kunduz, Faryab and Jawzjan provinces of Afghanistan, 2024

*Ghulam Jailani Atae<sup>1</sup>, Atiqullah Mohammad<sup>2</sup>, Homayoun Aahee<sup>3</sup>, Aminulhaq Karimi<sup>4</sup>, Mohammad Asef Rasoul<sup>5</sup>, Khwaja Mir Islam Saeed<sup>6</sup>, Mir Salamuddin Hakim<sup>6</sup>, Shoaib Naeem<sup>6</sup>*

## Introduction:

With the development and use of polio vaccines, the complete eradication of poliomyelitis became an objective. Polio vaccination efforts campaigns are hindered by a group of complex factors such as geographical barriers, insecurity, cultural traditions, and misconceptions about vaccines.

## Objective:

This study aims to determine the reasons for polio vaccine refusal among refusal families in Kunduz, Faryab and Jawzjan provinces.

## Methods:

A cross-sectional survey was conducted to determine the reasons of refusal among families who are against immunization during polio vaccination campaigns. Data was collected from different districts of Faryab, Kunduz and Jawzjan provinces during February and April 2024. Sample size was calculated by Epi Info software considering a 95% CI and 5% margin of error. Face-to-face questionnaires were used to collect data in the field and data was managed and analyzed in Epi Info and MS Excel.

## Results:

From a total of 325 caregivers/families interviewed, 223 (69%) were male and 102 (31%) were female. Many participants 209 (64.31%) fell in the 20 to 40 age group and 148 (45.54%) were illiterate. Polio vaccines coverage based on routine immunization card were 45.85%, 37.85%, 29.54%, 27.08%, and 27.38% for OPV0-1-2-3-4 respectively. Many caregivers 182 (56%) knew about poliomyelitis and 262 (80.62%) knew about polio vaccines. No permission by family (40.31%), mistrust the vaccine (29.85%), polio vaccine is haram (28%), vaccine side effects (25.85%), and no safety of the vaccine (25.23%) were among the most prevalent reasons for polio vaccine refusal.

## Conclusion:

Routine immunization and routine polio vaccines status was not satisfactory although caregivers reported good knowledge of polio vaccines. No permission by family elder and distance from the health facility were reported as the most and least reasons for polio vaccine refusal. Community awareness, demand generation, community engagement activities, and polio campaigns should be strengthened in areas with refusal families.

**Keywords:** Polio vaccine, Refusal, Families, Afghanistan

# **Clinical and demographic profile of children hospitalized with measles infection in Kabul**

*Nijatullah Safi, Wali Arian, Ahmed Maseh Haidary*

## **Introduction:**

Measles is a highly contagious viral disease and remains a significant cause of mortality among young children globally, despite the availability of a safe and effective vaccine.

## **Objective:**

To document the clinical and demographic characteristics of patients hospitalized with measles infection in Kabul, Afghanistan.

## **Methods:**

A retrospective review of medical records from January 2024 to August 2024 was conducted at the French Medical Institute for Mothers and Children (FMIC), Kabul. Data from 100 measles patients were retrieved and recorded using a pre-designed format, including demographic information, clinical features, complications, and outcomes. Descriptive statistics were employed to analyze the data.

## **Results:**

Out of the 100 patients, 78% were males, with a mean age of 25 months. The average length of hospital stay was 5+ days. The most common complication was pneumonia (63%), followed by diarrhea (34%), sore throat (29%), croup (9%), stomatitis (6%), and febrile seizures (2%). Patients were divided into five age groups: 0-6 months (13%), 7-12 months (41%), 13-48 months (29%), >4 years (12%), and >7 years (5%). A significant number of cases (41%) occurred in infants aged 7-12 months, particularly at 8 months. Only 66% of patients had received the full two-dose measles vaccination, and 52% of the cases were undernourished.

## **Conclusion:**

The majority of hospitalized measles cases were male, Pneumonia was the commonest complication followed by diarrhea & sore throat. Vaccination coverage was suboptimal, significant number of patients were seen in age group 7-12 months of age. More than half of the patients were undernourished, indicating a potential link between malnutrition and measles outcomes.

# Knowledge about Human Papilloma Virus (HPV) infection and attitude towards HPV vaccination among healthcare workers in secondary and tertiary care hospitals of Karachi

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<sup>1</sup>Department of Pediatrics and Child Health, <sup>2</sup>Family Medicine Department, Aga Khan University, Karachi, Pakistan

## Introduction:

Annually, about 5008 Pakistani women are diagnosed with cervical cancer, with a death rate of 3197. Thus, cervical cancer poses the fourth greatest burden of cancer-related mortality in the country. Being the world's 5th most populous country (229.5 million people) which has an annual growth rate of 2.84%, Pakistan is yet to start a structured screening programme for HPV detection or include HPV vaccine in its National Immunization Programme, the Expanded Programme on Immunization (EPI).

## Objective:

To assess knowledge about Human Papilloma Virus (HPV) infection and attitude towards its vaccination among healthcare workers in secondary and tertiary care hospitals in Karachi. Outcome measures: Knowledge and attitude regarding HPV

## Methods:

A cross-sectional study was conducted in 3 centers of the Aga Khan University Hospital. A structured questionnaire was used as the collection tool after informed consent. Data was analyzed using SPSS v21.

Study Duration: January 2023 to June 2023

## Results:

Total participants were 200: 26.5% from family medicine, 34.5% from gynecology, and 39% from pediatrics. The majority were residents of 38%, and 60.5% fell in the 20-30 years age group. The median knowledge score was 6/10 (IQR: 6, 7). Around 15.5% of the respondents erroneously thought that HPV infection can be cleared by antibiotics. Only 36.5% of physicians identified kissing as a possible mode of transmission and just 30% answered all questions regarding HPV transmission correctly. The median attitude score was 10/14 [IQR: 9, 10]; 4.5% of the physicians were unaware that a screening test was present, and 4% were unaware that its vaccine exists. 24.5 % believed that it could not be used in children, and 32% thought it couldn't be used in males. 24.5% said they would not be willing to pay for it and 93.5 % felt it should be included in the governmental vaccination program.

## Conclusion:

Knowledge about HPV transmission was low. Although most physicians had a positive attitude towards its vaccination, some were unaware about it completely and others had misconceptions. Many interested participants expressed concern regarding the difficulty in obtaining the vaccination due to intermittent availability issues.

**Keywords:** Human papillomavirus, infection, genital warts, cervical cancer, screening, pap smear, immunization programs, prevention, awareness, mass vaccination

## **Uptake of COVID-19 vaccination and related factors among the adult population, Parwan province, Afghanistan, 2022**

*Mohammad Alyas Hooshmand<sup>1</sup>, Said Iftekhar Sadaat<sup>1</sup>, Ahmad Shah Pardis<sup>1</sup>, Ali Mirzazadeh<sup>3</sup>, Christina Lindan<sup>2</sup>*

### **Introduction:**

COVID-19 vaccination has been a critical global health intervention in combating the pandemic. However, Afghanistan faces unique challenges in vaccine uptake due to political instability, public mistrust, and infrastructural limitations. Parwan Province, like many regions, has experienced low vaccination rates, with limited research addressing the underlying factors influencing vaccine acceptance among its adult population.

### **Objective:**

This study aimed to assess the uptake of the COVID-19 vaccine and identify the factors influencing vaccination among adults in Parwan Province, Afghanistan, in 2022.

### **Methods:**

A cross-sectional survey was conducted among a representative sample of adults in Parwan Province in June 2022. Data were collected on socio-demographic characteristics, health beliefs, access to healthcare, and exposure to health promotion initiatives. Descriptive statistics and logistic regression analyses were performed to identify key determinants of vaccine uptake.

### **Results:**

The study revealed that vaccine uptake was significantly associated with education level, monthly income, access to mobile phone and using social media and health beliefs related to vaccine safety and efficacy. Barriers such as misinformation, limited access to vaccination centers, and cultural resistance were identified as major hindrances to vaccination. Health promotion interventions were found to have a moderate positive impact on improving vaccine acceptance.

### **Conclusion:**

The findings highlight the critical need for targeted health promotion strategies that address the identified barriers and build public trust in vaccination programs. Strengthening healthcare infrastructure and ensuring accurate information dissemination are crucial for enhancing COVID-19 vaccine coverage in Afghanistan. The study's recommendations have significant implications for public health policy and future pandemic preparedness in low-resource settings.



## **Bacterial isolates and their antimicrobial susceptibility patterns among pediatric patients with urinary tract infections: A retrospective cross-sectional study at tertiary level in Afghanistan**

*Esmatullah Esmat, Ramin Saadaat, Ahmadullah Hakimi, Abdul Tawab Baryali, Ahmed Maseh Haidary*

### **Introduction:**

One the most common causes of the use of antibiotics in pediatric patients is urinary tract infection (UTI). It is the second most common cause for the use of antibiotics after otitis media. The widespread use of antibiotics is a serious and alarming condition for development of resistance against various antibiotics specifically those pathogens which are producing Extended Spectrum Beta Lactamase (ESBL). The current study was conducted to demonstrate the types of organisms isolated from the urine of patients presenting with UTI symptoms as well as their antimicrobial sensitivity spectrum.

### **Methods:**

A descriptive cross-sectional study was conducted at the microbiology section of the department of pathology, French Medical Institute for Mothers and Children (FMIC), Kabul Afghanistan. Including all the cases that were equal to or less than five years of age and demonstrated positive urine culture for a single pathogenic organism.

### **Results:**

A total of 272 positive urine cultures of children under 5 years including both outpatients and inpatients who had pyuria and/or hematuria, with signs and symptoms of UTI were included in the study. 175 (64%) of the cases were female and 97 (36%) cases were male. The majority of 133 (49%) of the cases were under one year of age followed by the age group of one to three years old. 171 (63%) had pyuria and hematuria. 175 (64%) cases were nitrite positive in the urine sample. The most commonly isolated organisms included *E. coli* in 117 (65%), *Klebsiella* species in 34 (12.5 %), *Candida* species in 34 (12.5%), *Candida albicans* in 22 (8 %) and *Enterococcus* species in 17 (6.2%). In this study 120 (62%) of gram-negative organisms were ESBL positive, among which *Proteus* species demonstrated higher ESBL positivity that was in 9 (90%) ESBL cases followed by 21 (78%) *Klebsiella* species and 69 (59%) *E. coli*. All *Enterobacteriaceae* family isolated in this study show (94%) resistance against Augmentin (AMC) and Ampicillin (AMP) and specifically high resistance rate of *E. coli* against third generation cephalosporin Ceftazidime (CAZ) (98%), Ceftriaxone (CRO) (82%).

### **Conclusion:**

Concentering the high prevalence of UTI in pediatric patients and nonspecific sign and symptom particularly in infant or young child there is delaying the diagnosis and treatment can be difficult. Urine sample should be analyses for all pediatric patient with fever and if there is pyuria, culture of urine should be performed. The increasing prevalence of Multi Drug Resistance (MDR) *Enterobacteriaceae* and increasing number of candidates in urine samples indicate miss use or prolong use of empirical antibiotics. More studies are needed in the pediatric population to better define the best therapeutic management in cases with antimicrobial resistance and the real usefulness of long-term antibiotic prophylaxis

# **Knowledge, Attitude, and Practices Toward Tuberculosis Among Health Faculty and Non-Health Faculty Students of Kabul University and Kabul University of Medical Sciences, Kabul, Afghanistan**

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## **Introduction:**

Afghanistan ranks 24th among the countries with a high TB death rate. The number of TB patients has increased by 3% during 2022 compared to 2021. University students are among the high-risk groups for TB. The frequent and high level of person-to-person contact in universities increases the transmission of infectious diseases including TB. This study aimed to evaluate the level of knowledge, attitude, and practices of university students regarding tuberculosis to better understand the situation.

## **Objective:**

To evaluate the level of knowledge, attitude and practices of university students regarding Tuberculosis.

## **Methods:**

A cross-sectional questionnaire-based study was conducted among 415 health and non-health faculty students between October and December 2022. Multi-stage stratified sampling technique was used to collect the data and data were analyzed using SPSSv25. Cross-tabulation and a Chi-Square test were used to identify differences between groups.

## **Results:**

The results of this study showed that 18.1% of health and 2.4% of non-health faculty students had good knowledge about TB. There was a significant difference in the knowledge of health and non-health faculty students ( $P$  value < 0.01). The level of good attitude of health and non-health faculty students about TB was 26.7% and 14.9%, respectively. Regarding practices, 41.9% of health faculty students and 29.8% of non-health faculty students had good practices about TB. There was a significant difference in the attitude ( $P$  value = 0.03) and practices ( $P$  value = 0.024) of health and non-health faculty students (health faculty students had better knowledge, attitude, and practices).

## **Conclusion:**

The knowledge, attitude, and practices of health and non-health faculty students were insufficient about TB. The practice level of health faculty students was poorer than what was expected based on their field. Television and the Internet played a good role in informing students about TB. So, both can be used for transferring good knowledge, positive attitudes, and correct practices about TB to society.

**Keywords:** Kabul University, Kabul University of Medical Sciences, attitude, knowledge, practice, students, tuberculosis

# **Comparative Assessment of Stool Antigen and Serum Antibody Tests of Helicobacter Pylori Infection among Symptomatic Patients at a Tertiary Hospital in Kabul, Afghanistan (2023): A Cross-Sectional Study**

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## **Introduction:**

Helicobacter pylori (H. pylori) infection is a significant cause of gastrointestinal disorders. Accurate diagnosis is essential for effective management and treatment. This study aimed to compare the diagnostic performance of Stool Antigen (Ag) and Serum Antibody Tests (Ab) against the Urea Breath Test (UBT) as the gold standard for detecting H. pylori infection among symptomatic patients at a tertiary hospital in Kabul, Afghanistan, in 2023.

## **Methods:**

This cross-sectional study was conducted on patients visiting the OPD ward at Cure Hospital with symptoms of dyspepsia who had not used PPIs in the past two weeks. Patients were then tested using three methods of Ag, Ab and UBT. The sensitivity, specificity, positive predictive value (PPV), and negative predictive value (NPV) of the tests were calculated, and the area under the curve (AUC) was used to assess diagnostic accuracy.

## **Results:**

Totally, 68 symptomatic patients (21 males [31%] and 47 females [69%]) were enrolled. Common symptoms included abdominal pain (62; 92%), early satiety (51; 75%), post-prandial fullness (51; 75%), and bloating (49; 72%). Out of the 68 patients, 32 (50%) were positive by the Serum Antibody test, while 26 (38%) were positive by both the Stool Antigen and UBT tests. The Stool Antigen test demonstrated a sensitivity of 96%, specificity of 97.5%, PPV of 96%, and NPV of 97.5%. In contrast, the Serum Antibody test showed a sensitivity of 73%, specificity of 62.5%, PPV of 55%, and NPV of 78%. The AUC for the Stool Antigen test was 0.968, while the AUC for the Serum Antibody test was 0.678.

## **Conclusion:**

The Stool Antigen test is a highly sensitive and specific diagnostic tool for detecting H. pylori infection among symptomatic patients, demonstrating superior performance compared to the Serum Antibody test. This suggests that the Stool Antigen test could be considered a reliable alternative to the UBT for H. pylori diagnosis in resource-limited settings.

**Keywords:** Helicobacter pylori, Dyspepsia, Antigens Bacterial, Antibody Bacterial, Sensitivity, Specificity

# **Immunization coverage among under-two years children of returnee families from Pakistan to Afghanistan, 2024**

*Mohammad Qasam Naeel<sup>1</sup>, Noor Mohammad Noori<sup>2</sup>, Ajmal Khan Sadat<sup>3</sup>, Sharafat Zaman<sup>4</sup>, Mohammad Nawaz Nawas<sup>4</sup>, Khwaja Mir Islam Saeed<sup>5</sup>, Mir Salamuddin Hakim<sup>5</sup>, Shoaib Naeem*

## **Introduction:**

Afghanistan has 8.2 million individuals who migrated and scattered across 103 countries. Since October 2023, Pakistan has started repatriating Afghan refugees, and more than 500 thousand have returned to Afghanistan. Less is known about immunization coverage among these returnees.

## **Objective:**

This study aims to find the immunization coverage of under-two years children among Afghan returnee families from Pakistan.

## **Methods:**

We conducted a cross-sectional survey with random sampling methods for families falling under the inclusion criteria. Data was collected during April 2024 from 422 returnee families in Nangarhar (Torkham crossing point, Jalal Abad city, Surkhrod, Behsood and Khewa districts) province. IRB approval was taken for this study, and necessary coordination was done with Nangarhar health authorities. Data was entered, cleaned, and analyzed using MS Excel and Epi Info V 7.2.1. Descriptive statistics, frequencies, percentages, and Chi-Square tests were performed.

## **Results:**

From a total of 422 caregivers, 225 (53.3%) were female. The most prevalent 239 (56.4%) age group was 20-30 years, and 311 (92.6%) caregivers were illiterate. Half of the children 232 (54.98%) were male, and many children 311 (76.79%) were bearing immunization cards. The highest number of doses 393 (93%) were reported for OPV0, and the lowest was 96 (23%) for Measles2. The coverage of Penta3 was reported as 223 (53%). We found that nearly 420 (99.5%) of the caregivers had sufficient knowledge about the vaccines. Reasons for no vaccination such as distance from health facility, vaccines are not good, and long waiting times were less than 1%, and no one reported vaccine as being Haram.

## **Conclusion:**

Overall, the routine immunization status and awareness level about vaccines were satisfactory among returnees. The Measles2 doses had low coverage which might increase the risk of outbreaks. Additionally, our study observed that immunization cards from Pakistan were more colorful (For every Antigen), which helps the caregivers to know better about follow up of their child vaccine. Vaccination campaigns, awareness activities, and strengthening routine immunization services for Measles is required among these returnee families.

**Keywords:** Immunization coverage, Returnees, Under-two, Afghanistan, Pakistan.

# Knowledge, attitude, and practice (KAP) of COVID-19 vaccines among healthcare workers in four provinces of Afghanistan, 2024

*Jamalliden Mudafi<sup>1</sup>, Muhammad Naeem Musbah<sup>2</sup>, Ahmad Tawfiq Salih<sup>3</sup>, Abdul Basri Jalil<sup>4</sup>, Rasool Fayez<sup>5</sup> Khwaja Mir Islaam Saeed<sup>6</sup>, Mir Salamuddin Hakim<sup>6</sup>, Shoaib Naeem<sup>6</sup>*

## Introduction:

Globally, as of August 2024, a total of 13.64 billion vaccine doses have been administered for COVID-19. Healthcare workers are at high-risk of infection, virus transmission beyond health settings.

## Objective:

This study aims to determine knowledge, attitude, and practice of COVID-19 vaccines among healthcare workers in four provinces of Afghanistan.

## Methods:

A cross-sectional study was conducted in four provinces of Afghanistan (Parwan, Panjshir, Badghis, and Ghor) during April 2024. In total, 425 HCWs were interviewed using a structured questionnaire. Questions were on sociodemographic factor, knowledge of COVID-19 vaccine, attitude, practice, and barrier of COVID-19 vaccination. Data was entered and analyzed in Epi Info V 7.2.1. Categorical data was analyzed using frequency and percentages while Chi-square for the mentioned variables was used with considering an alpha level of 0.05 with 95% of confidence interval to show association between variables.

## Results:

From the total interviewed HCWs, 156 (36.71%) were male and 269 (63.29%) were female. The mean age was  $32.3 \pm 7.8$  with a range of 18-61 years. In this study 417 (98.12%) participants had knowledge of the COVID-19 and 414 (97.41%) knew about its vaccines. The most common source of information was TV (63.18%), followed by social media (50.83%). Most of the HCWs 80.71% and 84% agreed with the safety and effectiveness of vaccines. Among the study participants, nearly 81% were willing to take COVID-19 vaccine, around 47% had received one dose and nearly 45% had received two doses of the COVID-19 vaccines. Rumors about the vaccines (24.81%), no safety (39.76%), and fear of side effects (37.87%) were among most common reasons for not taking the vaccine, rumors, and vaccination barriers.

## Conclusion:

This study showed high levels of knowledge, positive attitude, and good practice of COVID-19 vaccines among HCWs. Few HCWs were not vaccinated because of rumors, barriers and refusal reasons of COVID-19 vaccines. The awareness programs, which has proven to play an important role in communicating information about the safety and effectiveness of vaccines to health workers and community should continue and unattended HCWs should be vaccinated through campaigns and routine immunization strategies.

**Keywords:** COVID-19 vaccines, Knowledge, Attitude, Practice, HCWs.



## **Session 4**

### **Non-communicable Disease**

## **Revolutionizing in Medicine: Enhancing Precision, Predictive Analysis, Surgical care and Patient Outcomes Through Artificial Intelligence**

*Dr. Mohammad Tareq Rahimi MD., MS., Head of Surgery at French Medical Institute for Mother and Children (FMIC)*

### **Introduction:**

Artificial intelligence (AI) has revolutionized medicine and driven new advancements, from disease management to patient monitoring, serving as the backbone of modern healthcare. Additionally, AI is transforming diagnostic and therapeutic practices, empowering healthcare providers to tackle key challenges such as cost, disease management, accessibility, and treatment optimization.

AI algorithms can analyze vast amounts of patient data, including medical histories, imaging, and laboratory results, to predict presumptive diagnoses, risks, complications, and expected outcomes with greater accuracy. This predictive capability enables physicians to tailor their approach and develop personalized treatment plans, leading to better patient selection and more informed decision-making. Automated monitoring and early warning systems powered by AI can detect subtle changes in a patient's condition, enabling timely interventions and reducing the risk of complications. With this narrative, we explore the impact of AI on healthcare and highlights the importance of ethical and balanced integration to maximize its potential.

### **Discussion and challenges:**

The integration of AI in the medicine is an ongoing and rapidly evolving field, with the potential to transform the way of patient care is delivered, improve patient outcomes by early diagnosis and accurate disease management, improve telemedicine, and enhance the efficiency and cost-effectiveness of the healthcare system.

While the integration of AI in PGME (Post graduate Medical Education) is still in its early stages, the potential benefits are significant. Careful implementation, addressing ethical concerns, and effective collaboration between technology experts and medical educators will be essential for successfully leveraging AI to enhance the quality, personalization, and effectiveness of postgraduate medical education.

The implementation of AI technologies in surgical practices faces several key challenges such as Quality, Ethical considerations, Clinical workflow integration, Training and Technical challenges, which need to be addressed for successful integration and widespread adoption.

Addressing these challenges through collaborative efforts between clinicians, technology experts, policymakers, and regulatory bodies will be crucial for the successful and widespread integration of AI technologies in surgical practices, ensuring patient safety, improved outcomes, and the advancement of the field of surgery.

### **Conclusion:**

AI has changed the face of healthcare through unique advancements in patient monitoring, diagnosis, and treatment planning. However, the primary challenge is to maximize AI's transformative impact while ensuring alignment with ethical and regulatory principles.

# **Surgical Management and Clinical Outcome of Spine Tuberculosis at FMIC, Kabul**

*Dr Hashmatullah Zia, Dr Mirza Mohammad Nijrabi*

## **Introduction:**

Tuberculosis (TB) caused by mycobacterium tuberculosis is one the oldest disease in the world, Tuberculosis of the spine is the most common form of extrapulmonary bone and joint tuberculosis; the principles of treatment are different; biology, mechanics, and neurology are affected. Management strategies have changed significantly over the years, from watchful observations to aggressive debridement, to selective surgical indications, this has been possible due to the development of various diagnostic tests for early detection of the disease, The surgical strategy for treating spinal tuberculosis is to thoroughly debride tuberculosis infection lesions, carry out standardized and effective antituberculosis treatment, alleviate the symptoms of nerve compression, promote the recovery of nerve function, correct kyphosis, and rebuild spinal stability.

## **Methods:**

A retrospective case series study was employed in Spine TB patient who was surgically treated from 2009 up to 2022 at FMIC, aim of the study was to analyse the surgical treatment and clinical outcome of patients with spine TB, all patient data were collected from the confidential file records. Spinal TB was diagnosed in patients who had symptoms and signs compatible with spinal TB. The diagnosis was made in the presence of clinical manifestations and radiological as well as haematological examination, Diagnosis could also established by radiological manifestations (MRI), Biopsy or clinical features that correlated with spinal TB and had a good response to anti-TB therapy, Surgery was performed when neurological deficit due to mechanical compression, deformity, instability, severe pain, necrotic bone or failure to respond anti-tuberculous treatment were observed, the surgical procedure was anterior and posterior approach , drainage abscess and anterior strut graft(bone graft ), posterior arthrodesis and instrumentation, all patient treated with standard anti TB drugs pre and post operatively and followed up after surgery, Clinical symptoms, nerve function, and the erythrocyte sedimentation rate were observed, and kyphosis correction and bone fusion were evaluated by X-ray.

## **Results:**

We identified 24 patients with spinal tuberculosis who underwent surgical treatment at Orthopedic department of FMIC, 11 patients ( 45.8 %) were male, 13 patients (54.2 %) were female,12 patient (50 %) had thoracic spine TB Kyphosis, 11 patient (45.8 %) had Lumbar spine and 1 patient (4.2 %) had cervical spine TB Kyphosis, mean age of patient was (9.5 years) range from (3-16 years), 8 patient (33,3 %) anterior abscesses drainage, debridement and bone graft (anterior strut graft), 1 patient (4,2 %) anterior abscesses drainage, debridement, Bone graft and Posterior arthrodesis, 12 patient (50%) anterior abscesses drainage, debridement, bone graft(strut graft), posterior arthrodesis and instrumentation, 3 patient (12.5 %) posterior arthrodesis and instrumentation done ,at the last follow-up, all patients had achieved bone fusion, relief from pain, and neurological recovery and deformity was corrected and cobb angle was improved.

## **Conclusion:**

According to our finding if spine TB is diagnosed earlier and in mild forms conservative management consist of Anti tuberculosis medicine with orthosis is treatment of choice. In those cases where conservative treatment is failed, developed kyphotic deformity or neurologic deficit, surgical treatment is superior, combined anterior and posterior approach, strut bone graft and posterior instrumentation has very good results because it permanently corrects kyphosis and maintains spinal stability.

**Key words:** Spine TB, Kyphos



## **Treatment of Congenital Cleft Foot Case Report at French Medical Institute for Mothers and Children (FMIC), Kabul, Afghanistan**

*Shekaib Rahman Behroz, Mirza Mohammad Nijrabi, Azizullah Banaiee*

### **Introduction:**

Congenital Cleft foot is an unusual autosomal dominant disorder. It is characterized by its "lobster-claw" cleft foot deformities, as well this could be associated with the cleft hand, cleft lip, cleft palate and defects in the hair, teeth, nails, sweat glands. The incidence is estimated at 1/90 000 births when both hands and feet are involved and 1/150 000 with isolated foot deformities. Cleft foot is characterized by a spectrum of complete or partial loss of the central metatarsals and phalanges, often with present first and fifth rays lending to the lobster-claw appearance.

### **Objective:**

The aim of this study is to obtain functional and cosmetic feet by closing the cleft defect and allowing patients to wear normal shoes comfortably and preventing collapse and angulation deformities of the toes.

### **Cases Presentation:**

In 2024 two children of the same family, who had congenital cleft feet were treated surgically in the orthopedic department. Both patients had bilateral cleft feet. The boy was 5-years-old age, and the girl was 8-years-old. They were hospitalized in the pediatrics orthopedic department for chief complain of both feet deformity, inability to walk briskly and difficulty wearing normal shoes. After clinical and radiological evaluation, they were diagnosed as bilateral cleft feet. In accordance with Blauth and Borisch classification the boy both feet were Type III and his sister both feet were Type II. We did surgical treatment for both of them under general anesthesia and caudal block, now they can walk without any problem and can wear shoes normally.

### **Conclusion:**

Hereby we present a rare case of cleft feet in two children of the same family. Cleft foot is a complex deformity with poor cosmesis, and the treatment procedure should be chosen judiciously to obtain a good cosmetic and functional result for the patient.

## **Results of clubfoot management using the Ponseti method among children in Afghanistan**

*Salahuddin Siraj MD, Ms-Ortho, Orthopaedic Department, FMIC, Kabul-Afghanistan*

### **Introduction:**

Clubfoot is known as Congenital Talipes Equino Varus Deformity (CTEV), it is one of the most common congenital foot deformities among children globally, affecting 1-2/1000 live births worldwide. The Ponseti method for the treatment of clubfoot is acceptable globally.

### **Objective:**

The aim of this study is to evaluate the result of Ponseti method for CTEV among children at FMIC, Kabul Afghanistan.

### **Methods:**

A retrospective review of 42 patients with CTEV who were treated at FMIC from 2017 to 2024. 30 patients that came for follow-up are included in this study. The Pirani scoring system is used for evaluation of these patients. Structured checklist was designed for data collection, consecutive sampling technique was employed, and only participants who aged between 5days old to 3months old were included in this study and Analysis done by SPSS v25.

### **Results:**

Medical records of 30patients (47feet) revealed that 17patients (34feet) had bilateral clubfoot, 8patients (8feet) Right side and 5patients (5feet) Left side. Out of 30patients, 22patients (73.3%) were male and 8patients (26.7%) female. In our study, all patients treated by Ponseti method aged 5 days to 3 months (mean age 15days old). Our data indicates an increase in the number of CTEV patients each year. The mean follow up was 1.7 years. The result of treatment showed 93.4% success rate.

### **Conclusion:**

CTEV has a wide distribution all around Afghanistan and is not centred to only one specific region. We had 93.4% success rate and 6.6% complications. Therefore, the Ministry of Public Health (MoPH) should develop guidelines and training programs for gynaecologists, midwives, and paediatricians about referral of CTEV patients to paediatric orthopaedists for proper and early management of these cases by Ponseti method.

**Keywords:** Clubfoot, Talipes Equino Varus, FMIC.

## **Comparison of Mesiodistal Root Angulation of Teeth by Conventional Panoramic and Cone Beam Computed Tomography Images: A Cross-sectional Study**

*Dr. Afeefa Abul Barakaat, Dr. Muhammad Maaz, Dr. Rashna Hoshang Sukhia, Dr. Mubassar Fida  
The Aga Khan University Hospital, Karachi-Pakistan*

### **Introduction:**

Accurate bracket positioning is required for proper root parallelism and for stable orthodontic treatment outcomes. This study aimed to determine the difference in mesiodistal root angulation of teeth measured on three different radiographic images.

### **Methods:**

A cross-sectional study was conducted using orthopantomogram (OPG), panoramic images of cone beam computed tomography (Pan-CBCT) and cone beam computed tomography (CBCT). An occlusal plane was constructed in OPG and Pan-CBCT for angular measurements. The axial and sagittal views were used for assessing the mesiodistal root angulation on CBCT. Mesiodistal root angulation differences among three radiographic images were assessed using the Kruskal Wallis test. The Mann-Whitney U test was applied for pairwise comparison and multinomial logistic regression was used to determine the association of sexual dimorphism with the direction of root angulation.

### **Results:**

On comparing the mesiodistal root angulation in degrees (DE) among all three groups, upper right (UR2) and left lateral incisors (UL2) were found to be statistically significant with  $p = 0.033$  and  $p = 0.050$  respectively. On pair-wise comparison, we found a statistically significant difference for upper right lateral incisors (UR2) between OPG and Pan-CBCT ( $p = 0.045$ ). Upper left lateral (UL2) ( $p = 0.024$ ) was significant in OPG and Pan-CBCT while upper left first molar (UL6) ( $p = 0.043$ ) in OPG and CBCT group. On comparing the sexual dimorphism in the direction of root angulation, females showed a greater tendency of mesial root angulation (5.62) times for upper right second premolar (UR5) as compared to males.

### **Conclusion:**

There was no significant difference in mesiodistal root angulation between panoramic CBCT and CBCT. Upper lateral incisors' angulation was found to be significant between OPG and panoramic CBCT, whereas upper right lateral incisor and left first molars' angulation in OPG and CBCT. Based on sexual dimorphism females showed a greater mesial angulation of teeth as compared to males.

**Keywords:** Mesiodistal root angulation, conventional panoramic, CBCT.

# Characteristic of patients underwent surgery for chronic tonsillitis in a tertiary care hospital in Kabul, Afghanistan

*Zakia Hassani, Dr Roohullah Hares, Dr Abdul Wakil Ashrati, Wais Mohammad Qarani*

## Introduction:

Surgery for chronic tonsillitis is the most often performed operation in otolaryngology practice. The patients either undergo tonsillectomy or adenotonsillectomy due to recurrent symptoms patient experience. It seems like a safe procedure, while there exists a potential for significant morbidity and even mortality in respect of complications. Therefore, adequate care is required to improve patient outcomes.

## Objective:

The aim of this study was to determine the characteristics of patients who underwent surgery for chronic tonsillitis.

## Methods:

A retrospective data collection method was used in this study. A data collection tool was developed using the available literature which was reviewed by the experts in the field. Patients who underwent surgery during Jan- 2023 till Jul- 2024 were included in the study. Furthermore, patients were also called through phone to understand their condition post-operatively. Measures were considered to ensure confidentiality of the data. The data collected was transferred into MS Excel and presented descriptively.

## Results:

Total 232 medical records who underwent surgery for chronic tonsillitis were reviewed; among which 129 (56%) were male and 103 (44%) were female. The majority of the patients 140 (60%) were falling in the age category 6-12 years. 50% of the patients were resident of Kabul province. While 50% of the patient's parents were jobless, 52% of the patients reported that they belong to low-income families. parents of 78 (34%) patients were un-educated; and either parent of 100 (43) patients had primary level, 12 (5%) high school, and 42 (19%) higher education.

Pre-operatively, the majority 162 (70%) of the patients suffered from the condition for more than two years and common symptoms include combination of; nasal obstruction, sore throat and fever.

Post-operatively all patients received parenteral for pain management; and the majority 221 (95%) received nalbuphine. Only one patient had post-operative bleeding which was managed accordingly. 100% of patients appeared at least once for the follow up; and up on calling them, 57 (25%) did not respond, 29 (13%) had pain and 141 (61%) reported that they are doing well.

## Conclusion:

Surgery for chronic tonsillitis is one of the most frequently performed interventions in children. Our patients assembled the same characteristics which are reported in the literature. Quality care can contribute to good patient outcomes.

# Prevalence of DMFT Among Dentistry Students at a Private Medical University

*Dr. Mohsin Sakhi Zadai<sup>1</sup>, Dr. Mohammad Hashim Tahiri<sup>1</sup>, Dr. Mohammad Wais Hazrati<sup>1</sup>, Dr. Rahmatullah Nazari<sup>1</sup>, Dr. Muhammad Obaid Ghaznavi<sup>1</sup>, Abdul Majeed Momeni<sup>1</sup>, Ahmad Mustafa Akhundzadah<sup>1</sup>*

<sup>1</sup>*Cheragh Medical Institute, Kabul, Afghanistan*

## Introduction:

Dental caries, or tooth decay, poses a significant global public health challenge. The DMFT index, which measures Decayed, Missing, and Filled Teeth, serves as a critical tool for assessing the prevalence and severity of dental caries. Understanding the multifactorial etiology of dental caries encompassing dietary habits and oral hygiene practices is essential for developing effective preventive strategies.

## Objective:

This study aims to determine the prevalence of dental caries among dentistry students at a private medical university in Kabul, Afghanistan, and to identify associated risk factors.

## Methods:

A cross-sectional study was conducted among all dentistry students at the private medical university from June to August. Participants were assessed through oral examinations based on WHO diagnostic criteria, recording DMFT scores and associated demographic, dietary, and hygiene-related variables. Data were analyzed using IBM SPSS v26.

## Results:

The mean age of the participants was approximately 22 years, with 60% residing in Kabul. The mean DMFT score was approximately 6, with a range from 2 to 18. Notably, 45% of participants had high DMFT scores ( $>6$ ), indicating significant dental issues. Most students reported brushing once daily (60%), while 20% brushed more than once daily, and 10% brushed weekly. A significant correlation was found between brushing frequency and DMFT scores ( $p < 0.05$ ). Additionally, 70% of participants consumed carbohydrates daily, which was linked to higher DMFT scores. Socioeconomic factors revealed that 65% of participants had fathers with higher education levels, which correlated with lower caries prevalence.

## Conclusion:

The study highlights a significant prevalence of dental caries among dentistry students, emphasizing the need for enhanced oral health education and preventive measures. Addressing identified risk factors is crucial for improving dental health and reducing caries incidence in this population.

**Keywords:** DMFT, Oral hygiene, dentistry students, socioeconomic factors, dental health

## **Risk factors associated with esophageal cancers, diagnosed at tertiary level in Afghanistan: a descriptive cross-sectional study**

*Amna Amarkhail, Ramin Saadaat, Jamshid Abdul-Ghafar, Ahmed Nasir Hanifi, Saifullah Khalid, Abdul Latif Khairy, Abdul Sami Ibrahimkhil, Haider Ali Malakzai, Esmatullah Esmat, Mujtaba Haidari, Nasrin Hussaini, Najla Nasir, Sarah Noor and Ahmed Maseh Haidary*

### **Introduction:**

Worldwide, esophageal cancer (EC) is a common cancer in term of incidence and mortality and is the 4th common cancer in Afghanistan. Current study aimed to evaluate the profile of risk factors for EC among patients diagnosed at tertiary level in Afghanistan.

### **Methods:**

A descriptive cross-sectional study was carried out between January 2019 up to February 2021 including all esophageal cancers diagnosed at pathology department of French Medical Institute for Mothers and Children, Afghanistan.

### **Results:**

240 diagnosed cases were analyzed, in which 59.40% of squamous cell carcinoma and 41.07% Adenocarcinoma. Both histopathological type of were predominantly diagnosed in males. The majority of the patients were residents of rural areas. More than 80% of the patients were illiterate with only less than 2% completing higher education. Majority of the patients were laborers and farmers while less than 10% were employed. According to income assessment, more than 80% were from low-income household, the rest from middle-income and none from high-income family. Oral snuff consumption was noted in 33.9% of squamous cell carcinoma patients and 40% adenocarcinoma patients whereas, family history of esophageal cancer was observed in 37.8% and 36.7% in both types of carcinomas, respectively. More than 60% of both types of carcinomas patients were hot tea drinkers.

### **Conclusion:**

The current study revealed that most patients diagnosed with esophageal cancers are male, uneducated, belong to low-income groups, and live in rural areas. These findings suggest a distribution of esophageal cancer in specific socioeconomic groups, clearly demonstrating the need for further analytical studies.

## **Primary hydatid cyst of the urinary bladder with associated eosinophilic cystitis: Report of a unique case**

*Haider Ali Malakzai, Zekrullah Baset, Abdul Sami Ibrahimkhil, Mehmood Shah Rahimi, Jamshaid Khan, Ahmed Nasir Hanifi*

### **Introduction:**

Hydatid disease (HD) is a type of zoonosis caused by the adult or the larval stages of parasites that belong to the species *Echinococcus granulosus* (EG) or less commonly *Echinococcus multilocularis* (EM), *Echinococcus vogeli* (EV) and *Echinococcus oligarthus* (EO). Humans are affected by three different forms of the disease: (a) cystic echinococcosis that is caused by EG; (b) alveolar echinococcosis caused by EM; and (c) polycystic echinococcosis caused by EV or EO.

### **Case presentation:**

A 43-year-old Afghan man presented to the hospital complaining of mass sensation in the lower abdomen with pain and urine retention. The abdominal ultrasonographic examination revealed a septated cystic mass which was adhered to the inner surface of left lateral wall of the UB, mimicking infected transitional cell carcinoma. Gross examination of the specimen revealed multiple white cyst-wall fragments with smooth outer surface. Upon microscopic examination, the cross-sections of the cyst-wall exhibited an outer acellular laminated membrane and an inner germinal membrane with nucleated lining. The inner membrane of the cyst also showed numerous oval-shaped Protoscolices with hooklets budding from the membrane. Sections of the UB revealed an acute phase of eosinophilic cystitis exhibiting transmural dense infiltration of eosinophiles.

### **Discussion:**

Hydatid disease is a common health problem in endemic regions, particularly in livestock-producing countries. HCs of EG generally develop in the liver or the lungs but may also form in the heart, spleen, and pancreas. The rare intraperitoneal and pelvic HCs usually develop secondary to spontaneous or traumatic perforation of the cysts located in the more common primary locations. The parasites usually spread via portal blood stream. However, the parasite can also spread by lymphatic system, retrograde migration from the vena cava to the subclavian vein and rarely by peritoneal fluid circulation phenomenon. The cysts usually grow slowly to a diameter of 5–10 cm in a year and may persist for a long time without symptoms. It usually becomes symptomatic by compressing the adjacent organs and structures in a confined space that commonly presents abdominal pain and swelling.

### **Conclusion:**

Primary HC of the UB with associated EC is an extremely rare presentation of the disease that may radiologically mimic malignancy and lead to considerable diagnostic difficulties. The present case appraises the clinicians and radiologists of such rare presentations of HC and the importance of histopathological evaluation for the diagnosis of such cases.

# **Investigation of the prevalence of Premenstrual Syndrome Among Students of Mellat Institute of Health Science**

*Mohammad Farid Tawakoli*

## **Introduction:**

Premenstrual Syndrome (PMS) is defined as the recurrence of psychological and physiological symptoms during the luteal phase, which subside in the follicular phase of the menstrual cycle. This syndrome is highly prevalent among women of reproductive age, with global studies reporting a prevalence rate of 48%. These symptoms fall into three categories: physiological or physical, behavioral, and psychological.

This study was conducted to examine the prevalence of Premenstrual Syndrome (PMS) among the students of Mellat Institute of Health Sciences in Kabul, Afghanistan.

## **Methods:**

This descriptive-cross-sectional study was conducted on a population of 1,085 students, with a suitable sample size of 285 participants, between the months of May and September 2024. The sampling was done randomly and systematically, and questionnaires were distributed among the sample. The data collected was entered into SPSS v26 for analysis.

## **Results:**

This research found that the prevalence of PMS among the participants was 72.3%. Additionally, the study showed that the symptoms of this syndrome interfered with the daily lives and activities of 67.4% of the participants, affecting areas such as communication, education, work, and daily tasks. The common symptoms reported included muscle, joint, and back pain, fatigue, lack of energy, reduced interest in household and social activities, sleep disturbances, skin sensitivity, acne, itching, depression, irritability, loss of concentration, generalized body pain, social withdrawal, bloating, anxiety, nervousness, easy crying, and crying attacks, among others. The response rate in this study was 85%.

## **Conclusion:**

The study revealed a high prevalence of PMS and its associated symptoms among the participants, significantly affecting their daily lives and activities.





## **Session 5**

### **Mental Health and well-being**

## Implementation Research on Suicidal Behavior

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### **Induction:**

Study aims to evaluate the adoption and determinants of “Suicidal Behavior Detection and Prevention” practice by psychosocial counsellors (PSCs) working in comprehensive health centers (CHCs) at primary health care level in selected areas of Afghanistan.

### **Objective:**

To ascertain the adoption of “suicidal behavior detection and prevention” and assess the gaps and challenges in the provision of preventative counselling services carried out by PSCs to client prone to suicide risks.

### **Methods:**

The qualitative study was conducted. The semi-structure interview guide translated into local languages was used for individual and FGD interviews. The data were collected through digital voice recorder and transcribed into text in the original language of the respondents and used ATLAS ti-9 software for analysis.

### **Results:**

A total of 78 PSCs and 19 health staff participated in the study from 78 health facilities. The Fleuren determinants of innovation were used. The outcome of the study showed, due to, cultural and religious restrictions male PSCs is not allowed to arrange a session with a female client and vice versa, however, there is one PSC is available at the CHCs. Moreover, 20.51% of PSCs did not have space and equipped rooms and 42.3% of PSCs did not have regular access to tools for recording patients' information to ensure clients' privacy and confidentiality. The referral system within health facilities and clinical supervision sessions was weak. The risk factors for suicidal behavior are poverty and family violence. Interventions guideline for suicidal behavior used by PSCs was contextualized and compatible according to the context they were working in, and most PSCs were familiar about suicidal behavior interventions mentioned in the MoPH guideline.

### **Conclusion:**

The barriers that affected “suicidal behavior” counseling services need to be improved; For instance, enhance equipped rooms and availability of regular supply for recording patient information. Hence, availability male and female PSCs at the CHCs for provision of counseling services for both genders is required. However, create sustainable supervision mechanisms and enhance health staff capacity on mental health. Increase awareness sessions at health facility and community level to reduce stigma and psychosocial problems. On the other hand, the interventions guideline and tools for suicidal behavior used by the PSCs were contextualized and compatible according to the context and most PSCs were familiar about interventions guideline.

# Assessment of Mental Health and Psychosocial Support (MHPSS) Learning Needs and Gaps Among Community Health Workers and Psychosocial Counselors in Afghanistan

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## Introduction:

Afghanistan faces a significant burden of mental health problems, with over 50% of the population suffering from mental disorders at least once in their lifetime. The integration of mental health into primary healthcare has been a key priority, with efforts to build the capacity of health workers in providing basic MHPSS services. This study aimed to assess the MHPSS knowledge and skill gaps among community health workers (CHWs) and psychosocial counselors (PSCs) in Afghanistan.

## Methods:

A mixed-methods approach was used, including individual interviews with PSCs, CHWs, medical doctors, midwives, nurses, and key informants, as well as focus group discussions with CHWs and schoolteachers. Participants were selected using convenience sampling from four provinces and Kabul. Individual interviews covered topics such as MHPSS knowledge, skills, challenges, and training needs. Focus group discussions explored perceptions, attitudes, and practices related to MHPSS among CHWs and teachers. Desk review of existing MHPSS training materials was also conducted to assess the quality and coverage of the content. Data was analyzed using thematic analysis to identify key themes and gaps.

## Results:

The assessment found various gaps in MHPSS knowledge and skills among the different cadres of health workers. PSCs lacked in-depth understanding of mental health conditions and psychosocial interventions and faced challenges in providing comprehensive MHPSS services. CHWs had limited awareness of mental health and their roles in identification, referral, and psychosocial support. Medical doctors, midwives, and nurses had inadequate training on integrating MHPSS into routine care. Gaps were also identified in the quality and coverage of MHPSS training materials, with a need for more comprehensive, competency-based programs. Overall, the findings highlight the critical need to strengthen the capacity of health workers in MHPSS to improve access and quality of services in Afghanistan.

## Conclusion:

Strengthening the capacity of health workers in MHPSS is crucial to improve access and quality of services in Afghanistan. The findings highlight the need for comprehensive, competency-based training programs, supervision, and support systems for different cadres of health workers. Integrating MHPSS into pre-service and in-service training is recommended to address the identified gaps and ensure effective integration of mental health support within the primary healthcare system.

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# Assessing Primary Healthcare Professionals' Awareness and Understanding of the Relationship Between Climate Change and Mental Health in Pakistan: A Cross-Sectional Study

*Ibrahim Shah<sup>1</sup>, Laila Ladak<sup>1</sup>, Jai Das<sup>2</sup>, Adeel Khoja<sup>3</sup> and Farida Shah<sup>4</sup>*

## Introduction:

As people become more aware of climate change problems, they learn more about how it affects their physical and mental health. However, there exists a noticeable deficiency in clinical care and research about climate change. Healthcare professionals must understand the health impacts of climate change and be ready to practice in a climate-changed world. Healthcare providers may not be ready to identify and treat mental health difficulties caused by climate change due to a lack of scientific evidence. Understanding the perceptions of healthcare workers in Pakistan's primary care settings regarding the intricate relationship between climate change and patients' psychological well-being is crucial. This understanding is vital for developing well-informed policies, enhancing medical education, and improving patient care.

## Objective:

The study aims to evaluate the current awareness and understanding among primary healthcare practitioners in Pakistan regarding the influence of climate change on individual mental health.

## Methods:

A quantitative cross-sectional analytical study design approach was employed, combining quantitative surveys and qualitative interviews. The study involved primary healthcare practitioners from various regions in Pakistan, including Gilgit Baltistan, Chitral, Sindh, and Karachi, using structured questionnaires to assess their level of awareness and understanding of the impact of climate change on mental health. The data was further analysed to identify associations between demographic factors and familiarity with climate change terms such as solastalgia, climate anxiety, and eco-anxiety. Statistical tests, including Chi-square and one-way ANOVA, were utilized to explore these relationships.

## Results:

The study enrolled 263 participants, primarily females, representing 82.5% of the total sample (n=217, 82.5%). The mean age of the participants was  $37.06 \pm 8.99$  years. The study's findings revealed that the vast majority agree that climate change is a significant problem, with 99.2% (N=261) expressing this view. When considering the impact of climate change on mental health, 98.1% agree that climate-related factors will affect mental health. Furthermore, A majority (62.7%) expressed a sense of preparedness and confidence in discussing these impacts with clients. However, the same proportion (62.7%) indicated a lack of familiarity with specific tools and resources available for assessment and treatment. Moreover, participants with high familiarity with Solastalgia are more likely to have a good perception of the effect of climate change. Similarly, a significant difference is reported for other terms, including Climate grief ( $F=6.902$ ,  $p<0.01$ ) and Ecogrief ( $F=8.552$ ,  $p<0.01$ ).

## Conclusion:

The study found significant associations between healthcare practitioners' regional backgrounds and their familiarity with climate change-related terms. Practitioners from urban regions demonstrated a higher recognition of the link between climate change and mental health than those from rural and suburban areas. Most participants expressed a need for additional information on addressing the mental health impacts of climate change, with a preference for continuing education courses and professional conference presentations. The results also indicated a significant demand for practical educational opportunities, underscoring the need for comprehensive training and resources in primary healthcare settings.

**Keywords:** Climate Change, Mental Health and Primary health Care professionals

# **Integrating Mental Health and Psychosocial Support into the Community-Based Education Program in Afghanistan**

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## **Introduction:**

Afghanistan's informal education system, the Community-Based Education (CBE) program, serves a critical role in reaching marginalized and conflict-affected populations. However, the mental health and psychosocial needs of students in the CBE program have been largely unmet.

## **Objective:**

To assess the learning needs and service gaps related to Mental Health and Psychosocial Support (MHPSS) integration within the CBE program.

## **Methods:**

The assessment employed a mixed-methods approach, including focus group discussions (FGDs), key informant interviews (KIIs), and a desk review. FGDs were conducted with 31 CBE program staff, including teachers, master trainers, and supervisors, across four provinces of Afghanistan: Kabul, Balkh, Laghman, and Paktia. The FGDs explored perceptions of student mental health, existing MHPSS practices, and challenges in integrating MHPSS into the CBE program. KIIs were also carried out with selected CBE staff to gather in-depth insights into MHPSS learning needs and service gaps. Additionally, the assessment team conducted a desk review of relevant MHPSS and social-emotional learning resources. The qualitative data were analyzed thematically, and the desk review findings were integrated to inform the final recommendations.

## **Results:**

The assessment revealed significant stressors impacting the well-being of students in the CBE program, including poverty, displacement, and harmful cultural practices. A critical lack of MHPSS training and awareness was identified among CBE program staff, and referrals to mental health services were infrequent. However, the assessment found that teachers with a religious background were potentially effective agents in supporting student mental health within the CBE program. The desk review of MHPSS and social-emotional learning resources highlighted gaps in addressing psychological problems among students and the need for targeted interventions to promote emotional regulation and brain development.

## **Conclusion:**

This assessment underscores the urgent need to integrate mental health and psychosocial support (MHPSS) into Afghanistan's community-based education (CBE) programs. Integrating comprehensive MHPSS interventions, including staff training and referral mechanisms, can help ensure a holistic approach to education that addresses the diverse needs of vulnerable children in Afghanistan's CBE programs. Leveraging the potential role of religious teachers in supporting student mental health may also be a promising strategy.



## **Session 6**

### **Reproductive and Maternal Health and Nursing**

## **Evaluation of risk factors and etiology of infertility among infertile patients who underwent laparoscopy for tubal causes**

*Farzana Wali Jebran, MD, OBGYN Senior Consultant, Karima Sadat MD, Shokria Nabawi MD*

### **Introduction:**

Infertility is a health issue with reversible and irreversible causes and can have many successful treatment options. Management of infertility is very challenging, and all causes should be considered in the management plan. Tubal surgery for tubal patency and reversal is one of the options.

### **Objectives:**

To evaluate the risk factors and ecological causes for infertile patients.

To evaluate the surgical findings and outcomes in the same infertile patients.

### **Methods:**

A cross-sectional observational study on 133 infertile patients from the first month of 2021 to July 2024 was prospectively conducted. An Excel sheet was designed, and data collection was performed on admission. SPSS version 19 was used for data analysis.

### **Results:**

Out of 133 patients, 101 (76%) had primary infertility and 32(24%) had secondary infertility. The minimum age was 19 years, and the maximum age was 40 years. The mean age was 29.5 years. The minimum BMI was 17.3, and the maximum BMI was 34.4. More than half of the patients were overweight or obese. 38(28.5%) had irregular periods. 13(10%) had subnormal semen analysis. Below laparoscopic findings identified: 84(63%) had blocked tubes, 67%tubes got patent after surgery, 77% of them bilaterally, and 23 % unilaterally. Ovarian cystectomy in 15% and ovarian drilling in 7.5% of cases were done. 3(2%) had endometriosis. No drug abuse was identified.

### **Conclusion:**

In this study, the most common causes of infertility were investigated by history and physical exams, lab tests, imaging study, hysteroscopy, and laparoscopy. We identified in tubal factor infertility cases, many other factors including obesity, overweightness, poor economic status, menstrual abnormalities, and male factors. A tubal patency of 67% was established.

## **Knowledge, Attitude and Practice (KAP) of Females regarding breast cancer in Cure hospital Kabul, 2023**

Omer Malikzai<sup>1</sup>, Mohammad Samim Fahmi<sup>1</sup>, Aqil Shah Mohmand<sup>1</sup>, Zainab Ezadi<sup>2</sup>

<sup>1</sup>Cure Hospital, Kabul, Afghanistan

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### **Introduction:**

Breast cancer is a significant health concern for women worldwide. Understanding the knowledge, attitudes, and practices (KAP) regarding breast cancer among women is crucial for developing effective awareness and prevention strategies. This study aimed to assess the KAP of women visiting a hospital in Kabul, Afghanistan, to identify gaps and inform future interventions.

### **Methods:**

We conducted a cross-sectional descriptive study at Cure Hospital in Kabul. Women aged 18-60 years were randomly selected from three separate wards within the hospital. Data collection involved face-to-face interviews using standardized questionnaires to assess participants' knowledge of breast cancer signs, risk factors, and prevention methods, as well as their attitudes towards the disease and their practices regarding breast self-examination and mammography. Data were then analyzed using IBM SPSS v26.0.

### **Results:**

A total of 269 females were enrolled in this study with mean age of 32.8 and prominence of illiterate category (n=97, 36%). More than two-third of females were house-wife and four-fifth of them were married. The study revealed generally low levels of knowledge about breast cancer, with only 10.4% of participants scoring 50% or higher on knowledge questions. However, attitudes towards breast cancer management were more positive, with 55% showing very positive attitudes (75-100% score). Misconceptions were common, including beliefs about underweight increasing cancer risk (55%) and contraceptive pills preventing breast cancer (64%). Notably, 67% of women had never performed breast self-examination, primarily due to lack of training. Neither marital status nor education level significantly affected breast cancer knowledge.

### **Conclusion:**

The suboptimal knowledge levels of females toward breast cancer along with poor practice highlights the urgent need for comprehensive breast cancer interventions. Such interventions could benefit from the positive attitude of females reflected in this study. These programs as tailored educational interventions should focus on correcting misconceptions, providing practical training on breast self-examination, and promoting regular medical check-ups.

**Keywords:** Breast Cancer, Knowledge, Attitudes, Practice, Kabul, Females



# Analyzing Trends in Maternal and Neonatal Health Outcomes: Insights from Three Years of Data at Malalai Hospital

*Dr. Hafiza Omarkhil, Associated professor, Malalai Maternity Hospital*

## Introduction:

Maternal and neonatal health is a critical component of public health, significantly impacting population well-being. The Malalai Hospital dataset provides a comprehensive overview of maternal and neonatal healthcare metrics over three years, offering insights into hospital performance, patient outcomes, and service utilization.

## Objectives:

This study aims to analyze trends in maternal health indicators, including total deliveries, maternal death rates, cesarean section (CS) rates, and newborn health outcomes, to identify specific areas for improvement in healthcare delivery, particularly in access and quality of services.

## Methods:

Data from 1400 to 1402 were extracted from the hospital database, encompassing [insert number] records. Key variables analyzed included total deliveries, maternal deaths, C.S. rates, and newborn outcomes (alive, stillbirths, and newborn deaths). Descriptive statistics, correlation analyses, and one-way ANOVA were conducted using SPSS to assess trends and relationships between these variables.

## Results:

Preliminary findings indicate fluctuations in total deliveries, with a peak of 2764 deliveries in Asad 1401 (August 2022), and an overall average of 1660 deliveries per month. MMR 33.9, equating to a maximum of 1 death per month. The cesarean section rate was 38.7% of total deliveries. Newborn outcomes showed that 2,294 newborns were reported alive per month, stillbirths rate 2.5% and newborn deaths 9 per 1000 live births. Bed occupancy rates (BOR) averaged 92.6%, peaking at 107% during high-demand months. Correlation analyses reveal significant relationships between increased cesarean sections and maternal outcomes, highlighting potential areas for intervention.

## Conclusion:

The analysis underscores the need for targeted strategies, such as enhancing training for healthcare professionals and improving access to prenatal care, to reduce maternal deaths and optimize cesarean section rates. Continuous monitoring and evaluation, in collaboration with local health authorities, are essential for improving healthcare outcomes in maternal and child health.

**Keywords:** Maternal health, neonatal outcomes, cesarean sections, healthcare utilization, maternal mortality.

## **Pregnant women's health literacy in Kabul- Afghanistan**

*Zainab Ezadi, Minoor Lamyian, Ali Akbar Rasekhi*

### **Introduction:**

Health literacy is about capacity and accessibility, understanding, processing and evaluation, decision making and behavior regarding medical and health information. Due to the high significance of health literacy during pregnancy and its direct effect on the fetus and the limited research addressing this issue in Afghanistan, the present research aimed to investigate the health literacy of pregnant women in Kabul- Afghanistan.

### **Methods:**

The present descriptive-analytical study was conducted on 200 pregnant women in Kabul, Afghanistan through the convenient sample selection method. The data were collected through the Health Literacy Instrument for Adults, HELIA, and were analyzed statistically by independent-sample t-test and ANOVA.

### **Results:**

The average age of the subjects was  $27.36 \pm 5.77$  years. The results indicated that 78.5% of the subjects had an insufficient level of health literacy, 19% had not enough health literacy and 5% of the research units had sufficient health literacy. There was a significant relationship between health literacy level and age ( $P < 0.05$ ), while there was no significant relationship between health literacy level and number of pregnancies.

### **Conclusion:**

According to the results, the health literacy level of pregnant women in Kabul, Afghanistan showed to be inadequate or on a borderline. Moreover, trimester of pregnancy and age showed to be significantly correlated with health literacy. Therefore, promoting pregnant women's health literacy through simplifying health-related information, use of audio-visual media, improving communicative skills among the health staff and mothers can be effective.

**Keywords:** Health Literacy, Primiparous, Multiparous, Kabul

# Factors Associated with Preterm Premature Rupture of Membranes: A Case-Control Study in a Tertiary Hospital in Kabul, Afghanistan

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<sup>2</sup>Areta Aramak Research Organisation, Kabul, Afghanistan

## Introduction:

Understanding the factors associated with Preterm premature rupture of membranes (PPROM) is crucial for designing targeted interventions to mitigate its impact. This study aimed to identify demographic, obstetric, and behavioral factors associated with PPRM among women in Kabul, Afghanistan.

## Methods:

A case-control study was conducted over one year in Cure tertiary hospital in Kabul, Afghanistan. A total of 40 cases of PPRM and 80 controls without PPRM were included. Data were collected prospectively using structured questionnaires covering demographic, obstetric, behavioral, and medical characteristics. Logistic regression analysis was performed using IBM SPSS V26.0 to determine the factors associated with PPRM.

## Results:

Women residing in urban areas (90%) were more likely to experience PPRM compared to those in rural areas (10%). The maternal age was predominantly in the group of 20-29 years with 64.1% of PPRM cases in this group. Women with no education constituted 62.5% of the PPRM cases. Multiple pregnancies were more frequent in the PPRM group (15%). Lack of antenatal care (ANC) follow-up was significantly associated with an increased risk of PPRM (aOR = 6.8; CI 95% 1.79 – 25.81, p=0.005). Women with a history of PPRM had a significantly higher likelihood of recurrence (aOR = 9.57; CI 95% 1.03 – 88.92, p= 0.009). The presence of a urinary tract infection (UTI) was the most significant predictor of PPRM (aOR = 19.95; CI 95% 3.68 – 108.07, p= 0.001), while renal disorders were also significantly associated (aOR = 30.74; CI 95% 1.35 – 699.24, p= 0.032). Anemia and hypertension were not significantly associated with PPRM.

## Conclusion:

The study highlights the significant role of lack of ANC follow-up, history of PPRM, UTIs, and renal disorders as risk factors for PPRM. Interventions focusing on improving ANC follow-up and managing UTIs during pregnancy may help reduce the incidence of PPRM. Further research is needed to explore additional factors contributing to PPRM in different settings.

**Keywords:** Preterm Premature Rupture of Membranes, Case-Control Studies, Antenatal Care, Urinary Tract Infections, Logistic Regression, Risk Factors.

## **Comparison of application of partograph components before and after training in the OGBYN department of FMIC hospital**

*Farzana Wali Jebran, MD OBGYN senior consultant and obstetric fistula surgeon, Gulalai Wardak, and Karima Sadat*

### **Introduction:**

Key aspects of labor, including cervical dilation, fetal heart rate, uterine contractions, and the descent of the fetus are monitored by the partograph as a graphic representation. It allows early identification of the deviation from the normal labor progress and timely intervention to prevent maternal and fetal compromise.

### **Objective:**

To identify the level of application of partograph and comparison of this application after receiving the training.

### **Methods:**

This was a quasi-experimental study with a pre-test and post-test within-subjects design. 97 patients' files were reviewed for the level of application of partograph. This was followed by training in applying the partograph and labor care guide. 191 files were reviewed after training for the application of partographs in the same group of the obstetric team.

### **Results:**

Out of 23 components, 2 of them were 100 % plotted out properly in both pre- and post-training partographs. 14(61%) components' plotting were improved obviously in post-training partographs. 7(30%) of the components were plotted less properly compared to pretraining partographs, but this pre- and post-training difference was not more than 5.5%. The obstetric intervention for delay of labor progress also was evaluated. For 100% of the patients who required ARM in both pre-and post-training partographs, ARM was performed. Of patients who required augmentation 91.4% in pre-training and 100 % in post-training received augmentation.

### **Conclusion:**

The training had positive effects on plotting of the (61%) of the components of the partograph. It was expected to have a 100% improvement, but an 80 % change in the midwifery team members caused it to not have a 100% improvement. More consecutive training courses are required to compensate for the loss of experienced employees in a healthcare facility.

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## **A Rare Case Report of Orchiopexy and Hysterectomy in an Afghan Boy with Persistent Müllerian Duct Syndrome**

*Dawood Hossaini, Mohammad Mahdi Wahdat, Ali Akhlaqi, Murtaza Haidary*

### **Introduction:**

Persistent Müllerian duct syndrome (PMDS) is a rare hereditary condition marked by the incomplete regression of Müllerian duct structures in individuals with typical male physical and genetic traits. It can be inherited in X-linked, autosomal dominant, or autosomal recessive patterns. Mutations in the Müllerian inhibiting substance (MIS) gene or the MISR II gene are found in about 85% of cases, while the causes remain unclear in the remaining 15%. Common presentations include undescended testicles and inguinal hernias, with infertility being a significant complication. Given its complexity and anatomical variability, diagnosing PMDS is challenging, and fewer than 300 cases have been reported, including only one from Afghanistan.

### **Case Report:**

This case report discusses a 14-year-old Afghan boy who presented with abdominal pain, anorexia, weight loss, and a palpable abdominal mass. He was diagnosed with bilateral undescended testicles and abdominal cysts despite previous treatments. Physical examination indicated typical male external genitalia and secondary sexual characteristics, but further evaluations, including hormonal analysis and imaging studies, revealed bilateral undescended testicles and cystic abdominal masses consistent with lymphangiomyoma. Given the patient's condition, a hysterectomy was performed instead of an open cystectomy. The patient experienced a normal recovery and was discharged without complications.

### **Conclusion:**

PMDS is a rare sexual developmental anomaly characterized by the presence of Müllerian duct remnants in males. It manifests primarily in two anatomical forms: the more common male variant, often presenting as a hernia or testicular ectopia, and a less common female variant seen in 10-20% of cases, marked by bilateral undescended testicles. Diagnosing PMDS is complicated due to its diverse features and lack of clear diagnostic criteria. Treatment strategies aim to preserve fertility and prevent malignancies, with proposed management options including orchiopexy and removal of Müllerian structures based on the patient's specific anatomical presentation.



## **Childhood IBD with Sclerosing cholangitis and growth failure: A case report**

*Dr. Palwasha Wardak, fourth year resident pediatric medicine department, FMIC Afghanistan*

### **Introduction and Objective:**

Inflammatory bowel disease (IBD) is comprised of two major disorders: ulcerative colitis (UC) and Crohn disease (CD). UC affects the colon and is characterized by inflammation of the mucosal layer. CD can involve any component of the gastrointestinal tract from the oral cavity to the anus and is characterized by transmural inflammation. These disorders have distinct pathologic and clinical characteristics. Pathogenesis is thought to be multifactorial involving genetic predisposition, immune dysregulation, environment, and microbiome. The diseases may present at any age, but peak incidence is in adolescents and young adults.

### **Method:**

An 11-year-old boy, weighing 18 kg, has been visiting the FMIC Pediatric OPD Clinic for the past 6 years. His illness began with episodes of bloody loose stools, fever, and abdominal pain, for which he was hospitalized multiple times in various private hospitals. Initially, he was diagnosed and treated as a case of dysentery. Later icterus is developed and persisted with abnormal liver functions and diagnosed as a case of chronic liver disease. The patient was referred out of the country for liver biopsy, after detailed investigations, upper and lower GI endoscopy and biopsies, they found it is a case of IBD (ulcerative Colitis) with primary sclerosing cholangitis and growth failure.

### **Result:**

Atypical presentation of IBD is a challenge, especially when age is not the common age and diagnosis needs multiple stages, which is difficult to perform them in resource limited countries.

### **Conclusion:**

The course of ulcerative colitis is marked by remission and exacerbation. The diagnostic evaluation of IBD involves five steps. The first two typically are performed by the general pediatrician, while the last three are performed by the pediatric gastroenterologist.

Clinical suspicion of the illness based upon clinical symptoms, examination, and screening laboratory data

Exclusion of other illnesses that have a similar presentation

Differentiation between CD and UC

Localization of the region of the disease

Identification of extra intestinal manifestations (eg, sclerosing cholangitis)

**Keywords:** IBD, Growth failure, Ulcerative colitis, Sclerosing cholangitis

## **Splenic infarction following recurrent torsion of a wandering spleen: a case report**

*Soghra Khaliqi, Mohammad Tareq Rahimi, Abdul Jamil Rasooli, Nawaz Sharif Kashaf, Palwasha Wardak Mohtasebzada, Roohullah Hares.*

### **Introduction:**

Wandering spleen (WS) is a rare condition characterized by hypermobility of the spleen due to maldevelopment or absence of the ligaments that hold it in its normal location. Splenic infarction following torsion of a wandering spleen is a rare cause of acute abdomen in children and can be difficult to diagnose, especially at secondary healthcare facilities.

### **Case presentation:**

A 10-year-old girl was presented to our clinic with a two-week history of abdominal pain, fever and vomiting. On physical examination she was pale, cachectic and dysmorphic. Painful splenomegaly was noted on palpation. Inflammatory markers were elevated (CRP: 26.7 mg/dl; WBC: 20.4 x 10). A contrast-enhance CT of the abdomen revealed splenomegaly with complete splenic infarction due to torsion of the splenic pedicle, consistent with a wandering spleen. The patient underwent an emergent laparotomy through a left subcostal incision. A markedly enlarged spleen was found, with its pedicle completely torsed. The spleen had no attachments to the abdominal wall or diaphragm and appeared non vital. We proceeded with a complete splenectomy. The patient recovered well and was discharged in stable condition on the fifth postoperative day. At 6 months of follow up, she has had no recurrent episodes of abdominal pain.

### **Conclusion:**

While torsion of a WS is a rare condition, it must be included in the differential diagnosis of children with abdominal pain of unknown etiology.

**Keywords:** Wandering Spleen; Splenic infarction; Children; Splenectomy; Case Report.

### **Abbreviations:**

CT: Computed tomography

WS: Wandering spleen

## **Successful management of a brain abscess in an uncorrected congenital heart defect patient in a low-income country: A case report**

*Zmary Osman, Mohammad Tareq Rahimi, Roohullah Hares, Mohammad Amin Shinwari, Soghra Khaliqi, Nawaz Sharif Kashaf*

### **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 had 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, accompanied by significant vasogenic edema and an 11 mm midline shift to the right. The patient underwent an emergent awake craniotomy with sedation. Approximately 90 mL of purulent fluid was drained and sent for culture. A drainage catheter was inserted, and the incision was closed in layers. The patient recovered well and showed immediate improvement. The patient was discharged on the 15th day of postoperative in a stable condition.

### **Conclusion:**

A brain abscess necessitates strong presumptive evidence for early diagnosis and effective management, requiring a multidisciplinary approach for optimal patient care. Strengthening the referral system at primary and secondary healthcare levels for patients presenting with frequent cyanotic respiratory conditions will significantly reduce the morbidity and mortality rates of undiagnosed CCHD patients.

**Keywords:** Brain abscess, Cyanotic congenital heart disease, low-income country, Primary & Secondary health care services

## **A descriptive observational study on a case series of Mullerian anomaly cases**

Farzana Wali Jebran MD, Senior OBGYN consultant, Karima Sadat MD, Palwasha Samim MD

### **Introduction:**

Congenital uterine and vaginal anomalies with or without outflow tract obstruction are the result of abnormal development of the Mullerian duct system. Utero-vaginal anomaly cases can have an incident of 7%. Gynecologists rarely can be exposed to enough cases during their career. Diagnosis delay and wrong interventions can be common in managing these relatively rare conditions.

### **Objectives:**

To identify the demographic characteristics of mullerian anomaly cases

To evaluate the obstacles in diagnosing and managing the Mullerian anomaly cases

### **Methods:**

An observational descriptive study by reviewing 9 patients' files was conducted and through a voice call the level of their satisfaction and further complaints were evaluated.

### **Results:**

The minimum age of the patients was 12 years, the maximum age was 27 years, and the average age was 16 years. The maximum time between the first symptoms and office visit was (6 years), the minimum time between the first symptom and office visit was 6 months, and the average time duration between the first symptoms and office visit was (21 months). 7 patients (77%) had pelvic pain with dysmenorrhea, 2 (22%) had dyspareunia. All patients had normal BMI, 2(77%) had height less than 160cm, and 6 (66%) were illiterate. 8(88%) had a poor economic statement. 3 patients were married and one (33%) was divorced by the husband. 77% used many analgesics. 4 (44%) had other types of anomalies. 4 patients (44%) had previously failed surgical attempts. The maximum number of failed attempts was 3 times. Out of 9 patients 7 underwent surgical intervention in FMIC and 100% were satisfied with their surgical intervention up to 4-6 months of office follow-up visits. 55.5% of the patients responded to the phone call.

### **Conclusion:**

Patients with Mullerian anomalies due to different barriers in Afghanistan suffer longer periods of pain, delayed correct diagnosis, and unsuccessful interventions. Due to the unstable situation of the country and cultural and economic barriers, the long-term follow-up of the cases cannot be done precisely.

## **Medical Errors**

*Fazel Khaliq Omari M.D, PGD, E.N.T Department Shaheed Sardar Mohammad Dawood Khan Hospital*

### **Introduction:**

Medical errors are any preventable events that have occurred during diagnosis or treatment of the patient which may or may not harm the patient. There are several types of medical errors; the common are surgical errors, pharmacy errors, diagnostic errors, technical errors. As a human, doctors are fallible, and unfortunately unintentional errors can occur. unintentional errors can have both physical and mental harm on both physician and patient.

### **Objectives:**

To find the most common reasons for medical errors.

What is the impact of medical errors on medical personnel involved in the errors?

To persuade furthermore research in this theme.

### **Method:**

Our study is review of the literatures.

### **Results:**

One in 10 patients is harmed during health care. In low- and middle-income countries 4 in 100 patients are dying from unsafe care. (2) Medical errors are the third leading cause of deaths in the US (3). An Australian study shows that 16.6% of admissions resulted in medical errors. Common medical errors are preventable. Investment in reducing patient harm can save patient health and also unnecessary costs. One of the most surgical errors are surgical infections that cost a large amount for health system and grow the anti-microbial resistance. Physicians who face medical errors can experience anxiety, depression, burn out and other mental problems.

### **Conclusion:**

First, do no harm is the most acceptable and reliable phrase in medical care. Every medical department should develop their own patient safety protocol, (the WHO recommendations). Although developing technics for prevention of medical errors is a necessity, a degree of inevitable errors can occur in any aspects of human lives also should be accepted in medicine as humans are fallible.

# **The Prevalence of Awake and Sleep Bruxism in Afghan Youths Aged to 15 Years - 26 Years Olds: A Cross-Sectional Study**

*Shamila Azimi*

*Faculty of Dentistry, Kabul Medical University of Sciences and Research Committee, Kabul, Afghanistan*

## **Introduction:**

An agreement proposal based on the idea that bruxism is a "repetitive jaw activity" that can occur while sleeping (sleep bruxism) or during waking (awake bruxism) was released by an international group of bruxism experts in 2013.

## **Objective:**

To determine the prevalence of wakefulness and sleep bruxism among Afghan youth aged 15 years - 26 years in Kabul city.

## **Methods:**

This cross-sectional questionnaire-based study was carried out in two academic centers located in Kabul city. A total of 173 students of both genders participated in the study. Sleep and awake bruxism, chewing difficulties, joint noise, facial pain, anxiety, and stress were evaluated in the questionnaire. The data was gathered and input into SPSS V20.

## **Results:**

A total of 173 male and female students in various age categories composed the initial study population. There were 96 females and 77 males. The results show that there is no significant association between bruxism and gender. A total of 109 (63.3%) reported not experiencing any form of bruxism (neither sleep nor awake). A total of 10.3% of the participants experienced both AB and SB. A total of 16.1% experienced SB, and 10.3% reported AB. Overall, 64 of the participants (36.7%) had bruxism-23% were girls, and 13.7% were boys. This difference was not statistically significant; the most frequent symptom associated with dysfunction of the masticatory system was neck pain (28.2%), followed by joint noises (27.3%), facial pain (19.1%), and pain and difficulties in chewing (16.1%).

## **Conclusion:**

More than one-third of Afghan youths responded positively to awake and sleep bruxism, and there was a strong correlation between bruxism, chewing difficulties, and facial pain. The youth reported varying levels of anxiety and stress, and more investigations are needed.

**Keywords:** Bruxism; Facial pain; chewing difficulties; Stress/Anxiety; Afghans.

## **Intra-abdominal Retroperitoneal Fetus in Fetu: A Case Report**

*Sahar Mahroof, Hasina Noori, Mamoonullah Asmati, Adil Zaki*

### **Introduction:**

Fetus in fetu, a rare anomaly with fewer than 200 reported cases, is characterized by a vertebrate fetus developing within its twin. This paper explores the unique case of intra-abdominal retroperitoneal fetus in fetu, highlighting diagnostic intricacies and management strategies.

### **Objective:**

Fetus in fetu, a rare congenital anomaly characterized by a vertebrate fetus developing within its twin, presents complex diagnostic and management challenges. This paper details the case of a two-month-old male infant with intra-abdominal retroperitoneal fetus in fetu. Initial presentation, imaging findings, surgical intervention, and postoperative outcomes are discussed.

### **Case Presentation:**

A two-month-old male infant presented with a palpable abdominal mass, leading to the discovery of a well-defined heterogeneous lesion in the left upper quadrant. Imaging revealed bone, soft tissue, and organ components resembling a parasitic fetus. Surgical excision was successful, revealing an incompletely formed fetus within a membranous sac.

### **Discussion:**

The discussion delves into the pathogenesis of fetus in fetu, differentiation from teratomas, typical presentations, anatomical locations, organ inclusions, and diagnostic modalities such as CT and MRI. Surgical resection, genetic analysis, and long-term monitoring are key in managing this condition.

### **Conclusion:**

Accurate diagnosis and surgical excision are vital in managing fetus in fetu cases. This report underscores the importance of differentiating it from teratomas, utilizing advanced imaging for preoperative planning, and emphasizing complete resection and follow-up for optimal patient care. Further research is essential to enhance understanding and outcomes in such rare anomalies.

# Cerebral Large Hydatid Cyst: Diagnosis and Surgical Treatment; A Case Report

*Hidayatullah Hamidi<sup>1</sup>, Mohammad Qais<sup>2</sup>, Mohammad Iqbal Haqy, Mohammad Iqbal Haqyar<sup>1</sup>*

## Introduction:

Hydatid disease is a worldwide zoonotic disease caused by the larval stage of the Echinococcus tapeworm. It is usually seen in the liver followed by lungs; however, it can be present in any part of the body. Cerebral hydatid cyst is associated with significant morbidity hence accurate diagnosis and proper management is crucial.

## Objective:

To present the clinical manifestation, imaging features and surgical treatment of a large intracranial hydatid cyst.

## Method:

Case report

## Results:

A 10-year-old female patient presented with complaints of severe and progressive headache over the past month, vomiting, focal neurological deficits, signs of increased intracranial pressure, and papilledema. After physical examination the possibility of intracranial space occupying lesion was made, and brain MRI was advised. MRI examination revealed a large (about 10 x 9 cm), well-defined intra-axial, thin-walled, unilocular cystic lesion in the left parieto-occipital region. The lesion caused significant mass effect on the midline of the tentorium cerebelli, with a midline shift of 23 mm. Based on the imaging features and endemic area for echinococcus disease, the diagnosis of Cerebral Hydatid Cyst was made.

The patient underwent surgery under general anesthesia. The cyst was removed successfully without rupture. The patient was discharged with a complete recovery. Follow-up showed full resolution of symptoms, and the patient was in favorable condition.

## Conclusion:

Cerebral hydatid cyst is associated with significant morbidity hence accurate diagnosis and proper management is crucial.



# **The Impact of Negative Moral Characters on Health and the Improving Role of Spirituality: A Narrative Literature Review**

*Dr. Mansoor Aslamzai<sup>1</sup> MD, Dr. Delaqa Del<sup>1</sup> MD, PhD and Dr. Sayed Azam Sajid<sup>2</sup> MD*

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*<sup>2</sup>Saints John's Regional Medical Centre, United States.*

## **Introduction:**

Although negative moral characters are highly prevalent, they are not included in the International Classification of Diseases (ICD). Along with the modification of WHO ICD-11, spirituality can prevent the rapid progression of negative moral traits.

## **Objective:**

This study aimed to explore the effects of negative moral characters on health and determine the role of spirituality in improving these negative traits.

## **Methods:**

This narrative literature review was conducted from 2020 to 2023 in Kabul, Afghanistan. The articles were obtained from the Web of Science, PubMed, and Google Scholar databases.

## **Results:**

As demonstrated in this narrative literature review, most of the relevant experimental and observational studies have found that negative moral characters have significant negative impacts on overall health and well-being. Many studies have established the positive role of spirituality in improving negative moral characters. These studies concluded that facilities must be available within schools, universities, and communities for everyone to gain knowledge of spirituality and improve their negative moral characters. Considering the adverse impacts of negative moral characters on health, the current study proposes the addition of moral disorder to the WHO International Classification of Diseases. According to this literature review, spirituality will improve negative moral characters and strengthen excellent moral traits.

## **Conclusion:**

This narrative literature review highlights many adverse impacts of negative moral characters on the health and well-being of humans. The predominance, recurrence, or persistence of one or more negative moral characters should be considered a moral disorder. Therefore, the addition of moral disorder to the International Classification of Diseases is highly required.

**Keywords:** Negative moral characters, effect, health, spirituality, and well-being.

# **Implementation and evaluation of an infection control workshop in sub-Saharan Africa**

*David Odada<sup>a</sup>, James Nda<sup>a</sup>, Ruth Thuku<sup>b</sup> Rodney Adam<sup>c,d</sup>*

## **Introduction:**

The competence of infection preventionists is critical for effective infection prevention and control programs. Specialized training in infection prevention and control (IPC) is rarely available in sub-Saharan Africa. In order to help bridge this gap, we have implemented a 2-week course in IPC that was locally organized and utilized local faculty.

## **Objective:**

This study aims to evaluate the implementation of an infection prevention and control training workshop in sub-Saharan Africa.

## **Methods:**

The evaluation of the course by the participants consisted of a five-point Likert scale and the evaluation of knowledge acquisition was performed using sample multiple choice questions from CBIC that were given a similar weight according to content as used for the CBIC certifying examination. The questions were randomly distributed between the pre and post-test.

## **Results:**

A total of 40 participants attended the workshop. The training was rated highly on objective achievement with a mean score of 4.68 (95% confidence interval, 4.43 to 4.88), on a 5-point scale, The learning outcome was improved, with a mean score from pre to post-test assessment (49% vs. 64%;  $p < 0.05$ ).

## **Conclusion:**

Infection preventionists' competency can be enhanced through effective training in low-resourced settings. The availability of locally administered IPC will allow the advancement of high-quality IPC practice in sub-Saharan Africa that will improve hospital quality in the region.

## **Sustainability of A Digital Health Intervention within Pakistan's Remote Health System: Learning from Implementation Research**

*Dr. Saleem Sayani, Dr. Farah Jabeen, Dr. Momina Muzammil, Dr. Armughan Tauheed Farooqui, Mr. Ahsan Nawaz, Mr. Abdul Muqet, Dr. Malika Saba, Dr. Hidayat Ali, Dr. Faiz Ali Shah, Mr. Fayaz Roomi, Dr. Shahid Khan, Mr. Mirajuddin Miraj*

### **Introduction:**

Pakistan faces challenges in achieving Sustainable Development Goals for maternal and child health by 2030 due to a fragmented health system, limited data availability, and the use of paper-based systems. Hayat mHealth application was introduced in remote areas to digitize health records and address these challenges.

### **Objective:**

The research explores factors leading to government intervention's adoption, including the technological and programmatic approaches; challenges and mitigation strategies; and policy recommendations for the long-term sustainability of mHealth interventions in LMICs.

### **Methods:**

The observational implementation research was conducted in Pakistan. Data collection involved secondary sources, semi-structured questionnaires, and interviews with healthcare workers, facility managers, administrators, and government stakeholders. Findings were shared with participants, leading to consensus on the successful implementation strategies. Hayat was implemented in a phased approach, starting with pilot districts, scaling up regionally, and integrating into existing health systems.

### **Results:**

Hayat has been implemented in Gilgit-Baltistan and Khyber Pakhtunkhwa, Pakistan, with governments committed to scaling up regionally. Hayat integrated Expanded Program Immunization (EPI) and Lady Health Worker (LHW) programs improving data monitoring, enhancing collaboration, and preventing data duplication with QR codes. Its real-time dashboard enabled policymakers to track key indicators, reducing costly field visits while automated report regeneration features reduced healthcare workload. Hayat empowered communities with evidence-based audio-visual in the local language, involving male family members in health education and challenging sociocultural norms. Challenges of unstable internet and low digital literacy were addressed with offline capabilities and training. Hayat's success demonstrates the potential of digital health interventions to enhance healthcare outcomes in LMIC.

### **Conclusion:**

The sustainability of mHealth projects in LMICs requires collaboration with the government, policymakers, healthcare workers, and communities alongside addressing adoption barriers through comprehensive mobile data coverage and offline capabilities.

**Keywords:** mHealth, digital health, health polic.

## **Iatrogenic intracranial hypotension complicated to cerebral venous sinus thrombosis; a case report**

*Hidayatullah Hamidi, Mohammad Iqbal Haqyar*

### **Introduction:**

Iatrogenic intracranial hypotension is a known complication of spinal anesthesia, which can further lead to more severe conditions, such as cerebral venous sinus thrombosis (CVST). Authors present a case of intracranial hypotension in a young woman after lumbar anesthesia for caesarean section, which complicated to CVST and subsequently to lobar hemorrhage presenting clinically with severe headache and seizures. The diagnosis was made with cerebral Magnetic resonance (MR) imaging and treated medically.

### **Objective:**

To present the clinical manifestation, imaging features and treatment of Iatrogenic intracranial hypotension complicated to CVST.

### **Method:**

Case report

### **Result:**

A 19-year-old female developed orthostatic headache 5-6 days after C-section and spinal anesthesia. Subsequently in the next days the pattern of her headache changed to a continuous severe headache and diplopia. Later on, she developed dizziness and three attacks of seizure attacks. She was brought first to an obstetrician and then to a neurologist who advised brain MRV for her.

MRI revealed cerebral venous sinus thrombosis complicated to small lobar hemorrhage in the right frontal lobe. There was also diffuse smooth meningeal enhancement along the brain coverage suggestive of intracranial hypotension.

The patient received conservative treatment for intracranial hypotension. While she received anticoagulants for CVST. Follow up of patient was made via phone call. Most of her symptoms resolved following the medical therapy, but she still had dizziness. After two months' follow-up all of her complaints were resolved.

### **Conclusion:**

The case intends to aid clinicians taking in mind the possible complications of intracranial hypotension when evaluating patients with recent history of spinal procedure so that end up with early diagnosis and treatment as well as to prevent devastating consequences.

# **The Diagnosis of an Exceedingly Rare Case of Talon Cusp in the Mandibular Right Quadrant Central Tooth, Along with Agenesis of The Mandibular Left Central Tooth (Case report)**

*Dr. Hedayatullah Nayab*

## **Introduction:**

Talon cusp, a dental anomaly specified by a prominent accessory cusp from the cingulum or Cementoenamel junction of the anterior teeth, the etiology or cause of talon cusp is multifactorial, implicating genetic predisposition, environmental factors, and developmental anomalies during tooth Morpho differentiation, clinical manifestations of talon cusp vary in severity, ranging from a subtle morphological variation to significant occlusal interferences and aesthetic concerns.

## **Objective:**

To document a unique case of a talon cusp in a mandibular central tooth by detailing clinical and radiographic findings, coexisting conditions, and the absence of typical complications, this aims to contribute to the field of dentistry and enhance awareness for individualized patient care and treatment planning.

## **Methods:**

A comprehensive clinical examination was conducted the primary investigations, including inspection of the oral cavity, assessment of dental occlusion, and palpation of intraoral structures, radiographic evaluation of an orthopantomogram (OPG) radiograph was obtained to visualize the dental arches, tooth morphology, and any underlying dental abnormalities.

## **Results:**

This case report documents the diagnosis of a rare talon cusp in the mandibular central region, along with agenesis of the mandibular left central tooth, in a 24-year-old patient, unlike typical presentations, complications associated with talon cusps were absent due to the unique positioning of the mandibular anterior teeth, this report underscores the importance of individualized patient care in dental practice.

## **Conclusion:**

In conclusion, this study highlights the diagnosis of rare occurrence of talon cusp in the mandibular central tooth, accompanied by agenesis of the lower left central incisive tooth.

**Keywords:** Talon's Cusp, Lower Left Central Tooth Agenesis

## **Using Human-Centered Design to Develop a Storytelling-Based IEC Tool (Comic Book) For Adolescent Reproductive Health Education**

*Samra Maqbool, Sila Shahid, Amna Salim  
Baithak - Challenging Taboos*

### **Introduction:**

In Pakistan, 49% of young girls did not know about menstruation before their first period. When young girls in Pakistan undergo their first period without any prior education about it, it negatively impacts their physical, mental, and social well-being. A literature review published in 2020 identifies that mental health disorders are the most common NCDs found in adolescents.

### **Objective:**

To identify adolescent health issues and develop a storytelling-based comic book to engage and educate adolescents in Karachi, especially girls, about puberty and menstrual health.

### **Methods:**

Our team collaborated with grassroots organizations to integrate real-world conversations and observations from community outreach sessions into the creation of Nisa Kahaniyan.

A field survey revealed that many Pakistani women were uninformed about menstruation at the onset, viewing it negatively due to prevailing socio-cultural taboos. To address these issues, we co-created the comic book with educators, healthcare professionals, and social scientists, incorporating community feedback to ensure cultural relevance and sensitivity. The project involved detailed community surveys and focus group discussions to tailor the comic's content, making it a culturally sensitive educational tool. It is culturally appropriate and relatable, featuring conversations between a young girl and people close to her, like her parents and teachers, whom she feels comfortable discussing this issue with, serving as a guide for parents to discuss puberty with their daughters, featuring aesthetically appealing illustrations and a case study to reinforce key points.

### **Results and Conclusion:**

Comic books have proven effective in educating and engaging adolescent girls, with over 400 direct beneficiaries in underserved Karachi communities gaining increased knowledge and confidence regarding their reproductive health. Feedback highlights the comic's role in enhancing understanding and facilitating open discussions on previously taboo subjects.

## Management of a complex Müllerian Duct Anomaly: A case report

*Nawaz Sharif Kashaf, Mohammad Tareq Rahimi, Roohullah Hares*

### Introduction:

Congenital Müllerian duct anomalies occur in approximately 5% of females. These anomalies can range from asymptomatic cases, which are often discovered incidentally during investigations for other gynecological issues or during pregnancy, to more symptomatic presentations depending on the type and severity of the anomaly. Common presentations include primary amenorrhea, obstructed menstruation, dysmenorrhea, dyspareunia, difficulties with tampon use, infertility, and recurrent miscarriage.

Several classification systems exist for Müllerian anomalies, with the American Fertility Society (AFS) classification from 1988 being the most widely recognized and utilized. The AFS classification divides Müllerian anomalies into nine categories: Müllerian agenesis, cervical agenesis, Unicornuate uterus, uterus didelphys, Bicornuate uterus, septate uterus, longitudinal vaginal septum, transverse vaginal septum, and complex anomalies. The gold standard investigation for these anomalies is MRI.

### Case Presentation:

A 12-year-old female presented to our outpatient clinic with chronic abdominal pain lasting three months, dysuria, and occasional fever. She had a previous diagnosis of left-sided ureteric stones at another facility; however, no stones were found there. Birth history was unremarkable. Physical examination revealed normal external genitalia. Laboratory examinations were within normal limits (HB: 13.8 g/dL, WBC:  $6.7 \times 10^9/L$ , PLT:  $341 \times 10^9/L$ , PTT: 12, INR: 0.9, APPT: 32.1).

### Investigations:

Ultrasonography: The endometrial canal appeared empty and returned normal signals. The urinary bladder was enlarged, atonic, and contained a significant amount of air with an air-fluid level. Both ovaries were normal in size and morphology. The rectum was distended with fecal material. No enlarged lymph nodes or free fluid in the cul-de-sac. Both kidneys were normal in size, morphology, and position. Computed Tomography (CT): Findings suggested bilateral distal ureteric diverticula filled with stones, associated with bilateral congenital mega ureters and an atonic bladder. Maturing Cyst urethrogram (MCU): Demonstrated grade IV vesicoureteral reflux on the right side. Magnetic Resonance Imaging (MRI): Revealed a complex Müllerian duct anomaly with a left-sided Unicornuate uterus and a separate right-sided rudimentary uterine horn, terminating in a blind vaginal fornix. Multiple calcifications/calculi were observed in both dilated vaginal fornices, with a probable fistula involving the urinary bladder or distal ureter.

Cystoscopy: Identified an abnormal vaginal opening approximately 1-2 cm below the bladder neck. Multiple calculi/calcifications were present in the vaginal canal.

### Management:

Surgical intervention was planned. During the procedure, the bladder was found to have three openings: one urethral and two vaginal. Multiple stones were removed from the vaginal canal, and the abnormal openings were closed. The patient is currently under follow-up and management for further procedures.

### Conclusion:

Müllerian duct anomalies, while rare, can be present in many ways from infancy through young adulthood, including mucocolpos, hematocolpos, hematuria, primary amenorrhea, pelvic pain, infertility, or recurrent pregnancy loss. MRI is an invaluable tool for evaluating female genital abnormalities, providing essential imaging characteristics for the accurate identification of Müllerian malformations. Management of these complex anomalies requires a well-experienced surgical team and a well-equipped centre.

## **Computed tomography features and surgical treatment of wandering spleen torsion: A case report**

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<sup>1</sup>Radiology department, French Medical Institute for Mothers and Children (FMIC), Kabul, Afghanistan

<sup>2</sup>Surgery department, Paktia regional hospital, Paktia, Afghanistan.

### **Introduction:**

Wandering spleen is a rare clinical entity characterized by the laxity, absence, or abnormal attachment of splenic supporting ligaments leading to hypermobility and abnormal positioning of the spleen in the abdominal cavity. The abnormally increased mobility of the spleen predisposes it to torsion and infarction.

### **Objective:**

To present the clinical manifestation, imaging features and surgical treatment of a wandering spleen torsion.

### **Method:**

Case report

### **Result:**

A 44-year-old female presented with chief complain of acute severe abdominal pain, nausea and vomiting for last 3-days. The patient was advised abdominal ultrasound which reported a complex mass in mid abdomen and right iliac fossa with suspicious of appendicular abscess.

Triphasic abdominal CT scan revealed the twisting vessels (splenic artery and vein) and non-enhancing mass suggestive of wandering spleen torsion resulting in splenic infarction. The radiologist ensured the surgeon about the diagnosis, and soon surgery was planned.

Midline incision was done, after inspection, huge ectopic spleen was seen in the mid abdomen and right iliac fossa with long vascular pedicle that had 720° rotation. Eventually a splenectomy was performed.

After surgery essential medicine and vaccines was administered. The patient was kept under close observation for four days. The patient was discharged in a good condition on the fifth day.

### **Conclusion:**

In patients presenting with acute abdomen, torsion of a wandering spleen could also be considered in the differential diagnosis as an uncommon cause. This emphasizes the importance of general practitioners, radiologists, and surgeons being aware of this potentially dangerous condition. Failure to diagnose may lead to inappropriate invasive procedures, such as blind or US-guided biopsy.



## **Gossypiboma: Imaging Diagnosis and Surgical Treatment: A Case Report**

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### **Introduction:**

Gossypibomas is a rare entity, describes a foreign object (such as a cotton matrix or a sponge) which is left behind in a body cavity during operation. However, the real incidence is unknown due to legal and ethical issues concerned with this condition, limited number of publications are available and often under-reported.

### **Objective:**

To present four diverse cases of gossypiboma with different locations, signs and symptoms, imaging features and surgical treatment.

### **Method:**

Case report

### **Result:**

First patient had history of laparotomy 2 months back due to abdominal trauma, the second patient had complained of persistent lower abdominal and pelvic pain for three months and had C-section 3 months back, third patient had history of right lower quadrant pain for two years with vomiting, nausea and constipation for last 3 days and has cholecystectomy for gallbladder stones three years' back and the fourth patient complain of upper abdominal pain for 6 days.

Abdomen CT of all four patients revealed well-capsulated spongiform appearing structure with gas bubbles in abdomen and pelvis.

The patients underwent exploratory laparotomy, which revealed roll gauze wrapped in thick omental cover forming a pseudo capsule all around, with dense adhesions to surrounding soft tissues. The gauze pieces were removed. The patients tolerated the surgery well and had no recurrence of symptoms.

### **Conclusion:**

Gossypibomas is a rare entity, due to medico-legal issues under-reported. Prevention is the best management for this avoidable complication by careful counting all surgical materials at the end of procedure. The diagnosis should be considered in all patients with unexplained symptoms, mass or fistula with history of prior surgery.

## **Airway Management in neonates with complete Syngnathia for surgical correction: A case report**

*Dr. Ahmad Rashad Akbari, Dr. Obaidullah Naby Zada, Dr. Asma Nazari*

### **Introduction:**

This case describes a rare case of maxillomandibular fusion, a condition where the mandible and maxilla are fused, resulting in severely restricted mouth opening and impacting functions like nutrition, speech, and growth. This congenital condition is often associated with other anomalies, such as cleft lip and palate. This paper discusses challenges faced during diagnosis, anesthesia and surgery as well as the importance of early intervention to ensure airway patency, nutrition and facial growth.

Congenital malformation of maxillary and mandibular gums is rare in this case our main goal was to limit motion and minimal respiratory depression. It varies in severity from simple mucosal adhesions to extensive bony fusion, bony fusion is a very rare anomaly.

### **Objective:**

To intubate and protect the airway in patients with difficult airway access.

### **Method:**

We present the case of a 2-days-old female neonate weighing 3 kg. To achieve optimal airway control, fiber-optic intubation was employed in this case. All other utilities for the upper air way were prepared. Anesthesia induction was performed using face mask Sevoflurane while patient breathing spontaneously. ETT size 2.0 carefully passes through the right nostril about 20cm and connects to the breathing circuit to bypass the closed oral cavity and spontaneous ventilation. An assistant to the same side of ETT protects the tube from leakage and monitors etco2. Meanwhile an ETT size 2.5 with cuff selected and entered through fiber optic wire. With multiple tries we successfully established the tube in the left nose trail through a fiber optic bronchoscope. Anesthesia induced with Propofol 1mg/kg Nalbuphine 0.2mg/kg intravenously no muscle relaxant was used with continuous Sevoflurane gas. We detached the right nostril ETT when the left one was secured and fixed.

### **Conclusion:**

The successful Management of airway in this case with neonate Sygnatia highlights the importance of carefully planned and meticulously executed anesthesia strategy.

## **Acute Respiratory Infections in Afghan Children under Five: Insights from the 2022-23 Afghanistan MICS**

*Dr. Aminullah Rasooli, Dr. Mohammad Zakir Ayaz, Dr Habiburrahman Haziq, Zawul Institute of Higher Education*

### **Introduction:**

55 deaths per 1000 live birth occurs in children under five and Acute respiratory infections (ARI) is still a significant cause of mortality and morbidity among children under five, particularly in low-resource settings like Afghanistan. The 2022-23 Afghanistan Multiple Indicator Cluster Survey (MICS), conducted by UNICEF.

### **Objective:**

This study aimed to evaluate the prevalence of ARI symptoms among children under five years old, analyze the patterns of healthcare-seeking behavior by caregivers, and assess the use of antibiotics in treating ARI.

### **Methods:**

Nationally representative cross-sectional secondary data was extracted from the MICS 2022-23, Afghanistan. Data on ARI was collected through household surveys using standardized questionnaires. The survey included responses from mothers or primary caregivers of children under five. 32,989 out of 33,398 eligible parents or caregiver interviewed which shows 98.8% response rate. Data was collected across all 34 provinces, allowing for both national and regional analyses.

### **Results:**

The survey revealed that 25.9% of children under five experienced symptoms of ARI within the two weeks preceding the survey. The prevalence of ARI symptoms was higher in rural areas (28.3%) compared to urban areas (17.7%). The data also showed disparities based on the mother's education level and the ARI percentage; children from the mothers with pre-primary or no education had a higher incidence of ARI symptoms (26.9%) compared to those from the mothers with higher education (13.7%). (54%) of children with ARI symptoms received antibiotics. Among children who have experienced ARI, 45.3% of them seek care at a health facility or by a health care provider.

### **Conclusion:**

The MICS 2022-23 findings highlight the need for targeted public health interventions to reduce the burden of ARI among children under five in Afghanistan. It is crucial to improve healthcare accessibility, educate caregivers on the importance of early detection and treatment, and promote the appropriate use of antibiotics. Strengthening vaccination programs and expanding community health initiatives are essential to reducing the incidence and severity of ARI among Afghan children.

**Keywords:** Children, Acute Respiratory Infections, ARI, Afghanistan, MICS 2022-23, Public Health, Healthcare Access, Antibiotics, Child Health

**References:** United Nations Children's Fund (UNICEF). Afghanistan Multiple Indicator Cluster Survey 2022-2023: Survey Findings Report. Kabul, Afghanistan: UNICEF; May 2023

# Knowledge, Beliefs, and Practices Related to Menstruation Among Female Students in Afghanistan

*Rohullah Sakhi, Shakila Jalalzai, Zainab Ahmadi, Rowaida Almaszada, Froogh Nazanin Zarghoon, Raihana Mohammadi, Habiba Ahmad, Shakila Mazhar, Maryam Faqirzada, Mozhdha Hamidi*

## Introduction:

Menstruation is a universal, natural, unique, and physiological phenomenon. Despite the fact that menstruation is a natural fact of life, it is still considered taboo in Afghanistan and other developing countries.

## Objective:

To assess knowledge, beliefs, and practices related to menstruation among female students at Kabul University of Medical Sciences (KUMS).

## Methods:

A cross-sectional descriptive study design was conducted at KUMS in 2022, and a quota sampling technique was used.

## Results:

In this study, 339 students participated out of the 346-sample size. The majority of participants (70.02%) were over 20 years of age. About (59.60%) of participants were aware of menstruation before menarche. The main source of their information was their mothers (37.50%). The average age of menarche was 13.5 years old. Above 70% of respondents had normal patterns of menstruation. More than half of them (51.90%) had dysmenorrhea. Frequent menstrual disorders were abdominal pain (58.1%), and backache (56.1%). The majority of respondents had good and acceptable knowledge of menstruation (33.6%), and (63.1%) respectively. A statistically significant relationship between knowledge and academic year was observed ( $P$  value = 0.005). The majority of respondents (92.6%) had poor menstrual beliefs. A statistically significant relationship between respondents' age and beliefs was observed ( $P$  value = 0.004). Mother education did not affect respondents' level of beliefs ( $P$  value = 0.4). In addition, respondents had good practice of menstruation (75%).

## Conclusion:

In general participants had a good and acceptable level of knowledge with good practice related to menstruation. Despite the good knowledge and practice, the respondents' beliefs related to menstruation were poorer than what was expected from medical disciplines students. Their frequent source of information was their mothers, which highlights the provision of information and education for mothers and all females.

**Keywords:** menstruation, knowledge, beliefs, practice, female students, Kabul University of Medical Sciences

# **Assessment of Awareness toward Depression among Students of Kabul Education University**

*Mohammad Farakhshoor, BSPH*

## **Introduction:**

Depression is a significant contributor to global burden diseases, affecting individuals worldwide. This condition is said to be the fourth leading cause of disability and mortality among adolescents and young adults. Considering the importance of preventing depression and the role that knowledge plays in timely treatment, it is crucial to assess the level of awareness among adolescents and students regarding depression, initially.

## **Objective:**

To assess the knowledge of Kabul Education University students toward depression.

## **Methods:**

This study was conducted as a cross-sectional descriptive study. In this study 341 students from Kabul Education University consisted of stratified and systematic sampling methods. The data was collected by standard related questionnaire from literature review research. The information was entered into SPSS version 26 software for analysis.

## **Results:**

This study found that most of the participants were between ages 18-24 years. The results of this study indicated that 64.2% of participants was known about depression. The majority of respondents had good knowledge about signs and symptoms of depression, 78.3% said that sadness is the most significant symptom of depression. 81.6% of participants agreed that prolong poverty is the most significant cause of depression. From all respondents, 86.6% portrayed that antidepressants are the well-suited way for treating depression. 50.05% of participants were in good level of knowledge toward depression and 7% were in weak level of knowledge.

## **Conclusion:**

Generally, the knowledge of students regarding depression was good. According to the results of this study, students in upper grades had better knowledge than those in lower grades. Most participants' information source was media. So, it is important to aim at preventing adolescents and students from this deadly disease. Informational plans should be designed and implemented, and the media should be used for this purpose.

Key words: Depression, Knowledge, Student, University, Kabul

## **Anesthesia in Successfully separated conjoined twins at FMIC**

*Dr. Rashad Akbari, Dr. Khesraw Afghanyar, Dr. Tariq Rahimi, Dr. Nasir Ahmad Hakimi  
FMIC, Kabul, Afghanistan*

### **Introduction:**

Conjoined twins are an extremely rare congenital occurrence, and anesthetic management for surgical separation presents unique challenges and complex for anesthesiologists. Here we described successful anesthetic management in a surgery to separate omphalopagus conjoined twins.

### **Objective:**

To present the different anesthesia systems and controlled regularly according to conjoined twins' anesthesia protocol

### **Method:**

Case presentation

### **Result:**

Suspected omphalopagus conjoined twin girls were born by elective C/S in 2021.5.6 they were 9 days old when they were brought to hospital. V/S were normal, and their combined weight was 4kg. The twins were admitted to NICU and examination was done. The multidisciplinary team comprised pediatric surgery, anesthesiologist, ICU and OR nurse. The room was equipped with one operating table, tow anesthesia machines, and tow monitors, named by A and B. The twins were managed by two anesthesia teams (one anesthetic consultant, one trainee and one anesthetic nurse) with different anesthesia system and controlled regularly according to conjoined twins' anesthesia protocol. No premedication was administered. Ketamine, midazolam, and fentanyl were injected, and tracheal intubation was performed in baby A first. During the intubation sequence in twin A, twin B showed no sedation and remained awake. The same anesthesia was induction sequence and was subsequently performed in twin B. Additional peripheral IV were secured in both babies. Maintenance with sevoflurane don. normal temperature with warm blanket and IV solutions. During surgery, both were BT with 30ml of PRBC. The surgery took 6.5h. babes shift to NICU intubated.

### **Conclusion:**

We presented omphalopagus twins, there was a vessel that connected twin's livers. In addition, their sternums and diaphragms were attached. The twins discussed were successfully separated with no short-term complications.

# **Knowledge, attitude, and practices of students from four public universities of Kabul city (Kabul University, Kabul Medical University, Polytechnic University, and Rabani University) regarding the conditions for healthy blood donation.**

*Naweedullah Noori, Reza Saberi, Fazel Rahimi*

## **Introduction:**

Blood is an essential component of life and has no substitute. For this reason, it can save millions of lives. Blood donors give blood to ensure the safety and well-being of others and to support the medical needs and procedures of patients requiring blood transfusions. Blood donation is a fundamental emergency intervention in healthcare centers worldwide and plays a crucial role in reducing mortality rates.

## **Methods:**

This quantitative, cross-sectional descriptive study was conducted in 2024 (1403 in the Afghan calendar) among students from public universities in Kabul. Data were collected using a questionnaire, which was developed based on similar studies. The data were analyzed using SPSS v26.

## **Results:**

The results indicate that a majority of the participants (44.7%) had poor knowledge of blood donation, though most participants (77%) exhibited a positive attitude towards it. However, the actual practice of blood donation among participants was very low, with only 17.7% having donated blood. The study also found a significant association between participants' knowledge and their respective universities ( $P=0.03$ ), and between participants' practices and their age ( $P=0.003$ ). Most participants cited altruism as the primary motivation for donating blood, while a lack of requests for blood donation was the main reason for not donating.

## **Conclusion:**

The findings of this study reveal that the majority of participants had poor knowledge regarding blood donation, despite demonstrating positive attitudes. The low rate of blood donation practice among this educated segment of society, which is expected to encourage others in the community, is disappointing and concerning. Therefore, it is recommended that the government and academic institutions implement programs to raise awareness and promote a culture of blood donation, improving both the knowledge and practices of students.

# **Knowledge, Attitude and Practice of Kabul University of Medical Sciences students about testicular cancer and testicular self-examination**

*Naweedullah Noori*

## **Introduction:**

Testicular cancer is one of the most common cancers among men aged 15 to 35 in Western populations. Early diagnosis and treatment of testicular cancer are critically important, as it can be completely cured if detected in its early stages. Therefore, raising awareness about testicular cancer and promoting testicular self-examination (TSE) is recommended for early detection. A cross-sectional descriptive study, conducted in 2023 among students from public universities in Kabul. Data collection was carried out through a questionnaire filled out by the students, based on similar questionnaires used in other studies. Data analysis was performed using SPSS v26.

## **Methods:**

This descriptive cross-sectional study was conducted at Kabul University of Medical Sciences from May to August 2024 (1403 in the Afghan calendar). A total of 346 students, with an additional 10% to account for non-response, were selected as the sample. Data were collected using a standard questionnaire by convenience sampling method. The data was then analyzed using SPSS software.

## **Results:**

The results of this study show that 69% of participants had a moderate level of knowledge about testicular cancer, while 97.4% had a positive attitude towards testicular self-examination. However, only 7.7% reported performing self-examinations. The findings also indicated a significant association between knowledge and academic year ( $P=0.04$ ), as well as between knowledge and testicular abnormalities ( $P=0.03$ ). Additionally, self-examination was significantly associated with family history of testicular cancer ( $P=0.00$ ), age ( $P=0.04$ ), and testicular abnormalities ( $P=0.00$ ). A significant relationship was also found between knowledge and practice ( $P=0.007$ ).

## **Conclusion:**

The study findings suggest that while knowledge and attitudes regarding testicular cancer and self-examination are relatively good, the level of practice remains very low. Testicular self-examination is crucial for the early detection of testicular cancer. Therefore, the study recommends organizing specialized workshops for medical students on the importance of testicular cancer and self-examination, as well as conducting broad awareness campaigns on testicular cancer and TSE techniques among young men.



## **The prevalence of self-medication with antibiotics among students at Kabul University.**

*Bashir Ahmad Qudrati, Mohammad Adil Zaki, Rafiullah Oryakhail, Hafizullah Nikzad, Ehsanullah Zaland*

### **Introduction:**

Self-medication (SM) is when someone treats themselves using medications available without prescriptions and the supervision of a qualified medical professional. Antibiotics are an important resource for treating bacterial infections and have improved public health since their introduction. This research aims to investigate the prevalence of self-medication with antibiotics among students at Kabul University. However, this is a public health issue, and studies report prevalence rates varying from 11.7% to 92% widely. Self-medication with antibiotics is very common throughout developing countries due to easy access to drugs which accelerates self-medication. However, inadequate knowledge about antibiotics leads to inappropriate use of these medications with negative consequences, health outcomes and economic burdens mainly affecting populations at a vulnerable, such as students at Kabul University.

### **Methods:**

A cross-sectional study with a convenience sampling method was conducted in August 2024 with a sample-sized surveyed number of 388 validated questionnaires distributed among students (only Males, Age 18-26), demographic profile, exposures undermining self-medication with antibiotics, reasons for taking antibiotics, and sources of information. There was a descriptive and theme analysis of data explored by statistical design through SPSS v27 to identify patterns and correlations.

### **Results:**

The response rate in our study was 95.1%, self-medication prevalence was 59.1%, and primarily economic status was 75.9% middle, majority single 87.8%. Most antibiotics reported for antibiotics were amoxicillin 35.5% azithromycin 17.7% and penicillin 13.8%. The first reason for self-medication was personal experience/prescription, time, and not being able to visit a doctor when the condition exists. When aware of side effects reduced self-medication ( $P=0.013$ ).

### **Conclusion:**

The results reveal an immediate need for public health interventions to educate youth about the risks linked to antibiotics with misuse. Access to health services and education on the use of prescribed medications are urgent measures for the rising problem of drug resistance in Afghanistan. This study elucidates the value of specific interventions designed to enhance health literacy.

# **Investigating the Prevalence of Test Anxiety Among Public Health Students at Kabul University of Medical Sciences 'Abu Ali Ibn Sina'**

*Bashir Ahmad Qudrati, Bachelor of Public Health at Kabul University of Medical Sciences.*

## **Introduction:**

Test Anxiety (TA) involves physiological, behavioral, and cognitive reactions, with apprehension about failing evaluations. This reaction can negatively impact students' learning and mental health. Understanding the extent of anxiety and its contributing factors is crucial to addressing test demands and reducing student distress. This research aims to investigate the prevalence of exam anxiety among public health students at Kabul University of Medical Sciences.

## **Methods:**

In this Analytical Cross-Sectional Study using systematic sampling, we enrolled 170 students (only males, aged 18 to 25) from among public health students from July to August 2024. The level of test anxiety was determined using the questionnaire Westside Test Anxiety Inventory (WTAI). There was an analysis of data explored by statistical design through SPSS version 27 to identify the prevalence and influencing factors. Additionally, we employed regression analyses and correlations to explore the relationships between variables and assess the significance levels.

## **Results:**

Thirteen (9.4%) of the participants had low test anxiety, 22 (15.7%) had average anxiety, 29 (20.8%) had high average anxiety, 32 (22.6%) had relatively high anxiety, 22 (15.7%) had high anxiety, and 22 (15.7%) had very high anxiety. Test anxiety was also significantly associated with age, academic year, and economic status. Test anxiety was more common among those who had a poor economic status. This study also found a significantly positive correlation between test anxiety and participant age.

## **Conclusion:**

Test anxiety is quite common among students of that Faculty and first-year students and students with limited monetary resources are especially at risk. These results suggest that the mental health of students needs to be seriously considered as they seek to facilitate the students' transitions to adulthood. Students on a course of study that can affect the health of the general public need to be better educated within their curriculum. They should learn better awareness, better-coping methods, and better interpersonal communication.

# **Assessment of Healthy diet Among Students from Four Faculties of Kabul University of Medical Sciences.**

*Rafiullah Oryakhail–Public Health Faculty Student–Kabul University of Medical Sciences*

## **Introduction:**

A healthy diet refers to the consumption of foods that have beneficial effects on the body or, at the very least, do not have harmful impacts. A healthy diet typically includes a large number of vegetables, fruits, low-fat products, legumes, and low-fat foods. The objective of our study was to assess the healthy diet of students in Kabul medical university, by examining their knowledge and practice regarding healthy eating patterns. This study also aimed to evaluate the prevalence of healthy and unhealthy diets among the student population.

## **Methods:**

This is a descriptive cross-sectional study conducted between July and August 2024 among students from four faculties at Kabul University of Medical Sciences, Abu Ali Sina. The study utilized a questionnaire containing demographic information and questions regarding a healthy diet. The questionnaires were completed after obtaining consent. Data were analyzed using SPSS and Excel software.

## **Results:**

Out of 298 Students who Participated in this study, the average age was 21.1 years. A total of 31 students (10.4%) reported having a good diet, 235 students (78.9%) had a moderate diet, and 32 students (10.7%) had an unhealthy diet, The prevalence ratio of a healthy diet among student 89.26%, while the prevalence ratio of an unhealthy diet is 10.74%. In response to the question, "Do you skip breakfast more than once a week?" 139 students (46.6%) answered "Yes," while 159 students (53.4%) answered "No."

When asked if they consumed four types of fruit in a week, 98 students (32.8%) said "yes," and 200 students (67.2%) said "No." In response to the question "Do you eat more than four types of fruit per week?" 165 students (54.7%) answered "yes," and 135 students (45.3%) answered "No."

## **Conclusion:**

This study highlights the diversity of dietary patterns among students at Kabul Medical University, with a significant proportion reporting either healthy or unhealthy diets. A large number of students skipped breakfast and consumed fruits and vegetables at low rates. These findings underscore the need for targeted nutritional interventions and educational programs to promote healthier eating habits and improve dietary practices among students.

## **Tele-Health Best Approach for Pediatric Population**

*Nasreen Alwani*

### **Introduction:**

Tele-health, encompassing both telemedicine and broader telehealth services, has become increasingly vital in healthcare, particularly highlighted during the COVID-19 pandemic. While telemedicine has shown significant benefits for various populations, its effectiveness and applicability in pediatric care warrant specific investigation.

### **Objective:**

This systematic review aims to evaluate the benefits of telemedicine for the pediatric population, identify associated barriers and obstacles, and assess parental satisfaction with tele-health communication.

### **Methods:**

A comprehensive review of 20 research articles from sources including The Journal of Clinical Ethics, Evidence-Based Nursing, and PubMed was conducted. Inclusion criteria encompassed studies involving children aged 0-18 years and telemedicine interventions published between 2011 and the present. Articles were limited to those in English and primary research studies.

### **Results:**

The review identified several key benefits of telemedicine in pediatric care: increased access to specialized services, enhanced convenience, timely interventions, cost savings, continuity of care, active parental involvement, reduced infection exposure, educational support, early detection and monitoring, and improved research collaboration. However, barriers such as technological limitations, regulatory challenges, reimbursement issues, provider resistance, diagnostic constraints, language and cultural barriers, and medico-legal concerns were also noted.

### **Conclusion:**

Telemedicine has the potential to significantly improve pediatric healthcare by enhancing access and convenience while ensuring continuity of care. Despite its advantages, addressing challenges related to technology, regulation, and diagnostic limitations is crucial for optimizing its effectiveness. Future research should focus on overcoming these barriers and further integrating telemedicine into pediatric care practices to maximize its benefits.

**Keywords:** Telehealth, Telemedicine, Pediatrics, Systematic Review, Barriers, Parental Satisfaction

## **Assessment of Knowledge Level and Personal Hygiene Practices Among High School Students in the Salang District of Parwan Province**

*Hafizullah Nikzad*

### **Introduction:**

Hygiene is derived from the Greek word "hygiene," and it refers to the set of practices aimed at maintaining health and preventing the spread of diseases. Personal hygiene is considered a branch of health science that encompasses all factors related to maintaining a healthy lifestyle. Neglecting personal hygiene has increased the burden of infectious diseases in developing countries.

Infectious diseases account for 31% of all deaths in Southeast Asia, and this trend is significant in developing countries. The aim of this study is to assess the level of knowledge and practices related to personal hygiene among high school students in the Salang District schools for the year 1403.

### **Methods:**

This study was conducted using a cross-sectional descriptive method with the aid of a questionnaire among high school students in the Salang District schools. Systematic sampling was employed, with 3 out of 11 schools in the Salang District selected randomly. Data were analyzed and processed using SPSS and Excel software.

### **Results:**

Out of a total of 211 questionnaires, 202 were analyzed. Participants were aged between 14 and 19 years, with an average age of 16. In this study, 56% of participants had good knowledge, 40% had average knowledge, and 3% had poor knowledge. The majority of participants demonstrated a good level of knowledge. In this study, 97% of students bathed regularly, with 56% doing so once a day, 17% twice a day, and 17.8% three times a day. All participants reported washing their hands before and after meals, with 66% using plain water, 29% using water and soap, and 4% using disinfectant liquid. All participants stated that they regularly trimmed their nails.

### **Conclusion:**

In this study, participants demonstrated a good level of knowledge. It is recommended to bridge the gap between knowledge and performance by providing educational sessions and monitoring students' personal hygiene.

## Evaluation of Acute Exacerbations of Chronic Obstructive Pulmonary Disease at Ibn Sina Hospital

*Khatera Yarzada<sup>1</sup>, Dr. Said M. Rahim Niazy<sup>1</sup>, Dr. Sanaullah Safi<sup>1</sup>*

### **Introduction:**

Chronic obstructive pulmonary disease (COPD) often leads to acute exacerbations, necessitating urgent medical intervention and frequently resulting in hospitalization. These episodes worsen patients' baseline respiratory status, adversely affecting disease progression, lung function, and quality of life. Although spirometry is crucial for diagnosing COPD, limited access in Afghanistan hinders accurate assessment. Moreover, frequent and severe exacerbations are linked to increased risks of future exacerbations and higher mortality rates. Therefore, effective management of each exacerbation is vital for improving patient outcomes.

### **Objective:**

This study aims to evaluate the prevalence and frequency of AECOPD and to identify the triggers, comorbid conditions, and outcomes associated with these exacerbations.

### **Methods:**

This cross-sectional descriptive study assessed the frequency and prevalence of acute exacerbations of Chronic Obstructive Pulmonary Disease (AECOPD) among 100 patients who were admitted from July 2023 to February 2024 in the ward and ICU at Ibn-e-Sina Hospital in Kabul. Data were gathered through structured face-to-face interviews. The study sample had a higher proportion of female patients (70%) than male patients (30%), enabling a gender-stratified analysis.

### **Results:**

The study found that 60% of patients had AECOPD, while 40% had stable COPD. Among female patients, 40 experienced one exacerbation-related hospitalization within the year, 10 had two, 5 had three, and 15 had four. No male patients had exacerbations during admission. The mean age was 67.07 years (SD = 11.16) for females and 69.96 years (SD = 11.49) for males, with no significant age difference between genders. The prevalence of COPD in Kabul was high at 70%. The most common comorbidities were hypertension (48%), hypertension with ischemic heart disease (13%), hypertension with type 2 diabetes (10%), and a combination including peptic ulcer disease (10%).

### **Conclusion:**

The findings indicate a significant prevalence of AECOPD, particularly among female patients, demonstrating the need for targeted intervention strategies. Limited research on COPD in Afghanistan and restricted access to spirometry highlight the importance of improved diagnostic and management approaches. The exclusion of outpatient data emphasizes the need for comprehensive future studies including all patient settings to better understand the full spectrum of COPD exacerbations.

**Keywords:** COPD, Acute Exacerbations, Comorbid Conditions, Spirometry, Kabul

# **Nurses' Children and Doctors' knowledge and Practice in the Management of Under 5 Years Old Severe Acute Malnutrition in Selected Health Centers in Afghanistan**

*Eid Mohammad Wafaei, Abadulla Faheem*

## **Introduction:**

In Afghanistan, severe acute malnutrition has a major impact on child morbidity and mortality. Studies have demonstrated that nurses frequently lack the expertise necessary to effectively address children under 5 years old with severe acute malnutrition, fortunately doctors have enough knowledge. To prevent and treat child malnutrition using the proper standards or protocols, nurses must have the necessary knowledge, skills, attitude, and practice.

## **Methods:**

This study used a quantitative technique with a descriptive cross-sectional study Design and the sample size method is non-probability quota sampling method was used. 138 nurses and doctors from the 2 health institutions in Afghanistan Kabul city participated in the study. To gauge nurses' and doctors' socio-demographic traits, as well as their knowledge and skills regarding the management of under 5 years old children severe acute malnutrition, a questionnaire was used. The complete sample was utilized. Data were examined to ensure that there were no errors using SPSS version 26.0. Analysis of the frequency distributions, means, and participation percentages was done using descriptive statistics. Age, gender, education level, and number of years spent practicing nursing are examples of descriptive categories. The link between demographic factors and knowledge and practice scores was ascertained using inferential statistics, more especially the bivariate analysis using Chi-square.

## **Results:**

The findings of the present study showed that in 138 nurses' and doctors' participants, 53(38.4%) had high level of knowledge about malnutrition management because they passed with more than 75% marks, 8(5.8%) had low level of knowledge while 77(55.8%) had moderate level of knowledge. Results revealed that of 138 nurses' and doctors' participants, 61% of them had high level of practice about severe acute malnutrition management as an acceptable level of practice was set at 75%, (13%) had low level of practice, while (26%) had moderate level of practice. Most independent variables (socio-demographic characteristics) have shown a statistical relationship with dependent variables (level of knowledge).

## **Conclusion:**

The findings of the present study have revealed a moderate level of knowledge where has been also revealed to be associated with most sociodemographic data. Malnutrition management within children is a challenge to the nurses, doctors, patients, and the families in the health center of Kabul. More training sessions and deep analytical research are needed.

**Keywords:** Nurse, Doctors, knowledge, practice, malnutrition, management, Afghanistan

# **Knowledge Regarding Lung Cancer Among Faculty of Public Health at Kabul Medical University of Sciences Students**

*Zarif Haidari BSPH, Professor Shafiqullah Shahim*

## **Introduction:**

Lung cancer is recognized as one of the most common causes of cancer-related mortality globally. Since lung cancer is often diagnosed at advanced stages, understanding the level of awareness among the local population is essential for designing effective preventive strategies. By identifying gaps in knowledge, this research aims to inform targeted health education efforts, optimize resource allocation, influence policy development, and contribute to the limited research on lung cancer awareness in the region, ultimately aiming to improve public health outcomes.

## **Methods:**

This cross-sectional descriptive study was carried out on a sample of 272 students, selected using quota and systematic sampling methods, during the period from July Month to August in the year 2024. Questionnaires, developed after reviewing similar studies, were used and the data were analyzed using SPSS version 26 with descriptive statistics and chi-square tests.

## **Results:**

Out of a sample size of 167 (164 participants response rate of 98.2%) were included in the study. The age range of participants was between 16 and 25 years, with a mean age of 20.89 and a standard deviation of 1.414. The study found that only 16 students 9.8% had good knowledge, 101 students 61.6% had average knowledge, and 47 students 28.7% had poor knowledge, with the majority exhibiting average knowledge. The primary sources of information were magazines or books, with 68 participants 41.5% obtaining information from these sources. Additionally, 32 participants 19.5% reported a history of cigarette use, while 132 participants 80.5% had no history of cigarette use. A statistically significant relationship was observed between knowledge level and academic years ( $p\text{-value} = 0.005$ ).

## **Conclusion:**

This study indicates that participants generally had an average level of knowledge about lung cancer.

**Keywords:** Awareness, Students, Lung Cancer



## **Attitude and Compliance towards Infection Control Practices by Dental Assistants at a Tertiary Care Hospital: A Quasi-Experiment**

*Dr. Faiza Ali, Dr. Rizwan Khalil, George Samuel, Dr. Rashna Hoshang Sukhia, Dr. Mubassar Fida  
The Aga Khan University Hospital, Karachi, Pakistan*

### **Introduction:**

Infection control and cross-contamination prevention are crucial in healthcare. Key practices include hand hygiene, PPE usage, instrument sterilization, and surface disinfection. The primary goal was to conduct a PDSA cycle on the infection control practices of dental assistants, while the secondary goal was to assess their knowledge, attitudes, and perceptions regarding these practices.

### **Materials and Methods:**

A 15-month quasi-experimental study using a PDSA cycle was conducted with 18 dental assistants, selected through non-probability purposive sampling. A proforma was developed in the Planning Phase, and data was collected anonymously by trained evaluators over six days for eight weeks during the Do Phase. Analysis in the Study Phase showed compliance was below 95%, prompting an educational session in the Act Phase. The McNemar test compared pre- and post-intervention compliance. A self-structured questionnaire was also shared via Google Forms to assess the secondary objective.

### **Results:**

Eighteen dental assistants were observed. Pre-intervention compliance was below 95%, but post-intervention improved, with four practices showing significant improvement (82.6% to 86.2%). Sixteen participants achieved 100% compliance, with statistically significant improvements in three individuals (p-values: 0.002, 0.031, 0.003). Twenty-two assistants completed the questionnaire, with 95.5% reporting handwashing before and after patient treatment, and 81.8% occasionally changing masks. Six reported exposures to sharp injuries or bodily fluids in the past year.

### **Conclusion:**

The PDSA cycle effectively improved infection control compliance, achieving 100% after the educational session.

# **Assessment of Digital Game Addiction Between Students of Mohammad Asaf Mayle High School**

*Habibullah Hussaini, Dr. Edris Anwar*

## **Introduction:**

Concurrently with developing and coming contemporary universe, technology has become one of the necessary things in human life. In every aspect of human society, the usage of technology is so special and useful. So, we can say, in developing today's universe technology has the best role. Therefore, with developing technology and invention of various kinds of digital tools the subject of addiction to digital tools became popular among people and spread day by day. Now it is one of the biggest problems among adolescents and adults. According to the theory of Nurrullah and his coworkers, addiction to digital game is defined like this: it is a statue that continuously and gradually is developing, and players have so desire to play digital games, it is uncontrollable among adults and adolescent Finally current stud was done among students of Mohammad Asaf Mayle Hig School.

## **Objective:**

Assessment of digital game addiction between students of Mohammad Asaf Mayle High School.

## **Methods:**

This is a Cross-Sectional Descriptive Study. In this study for collecting information used from mix of two questionnaires which one of them verified by three experts which consist of a field expert, an assessment and linguist evaluation expert, and the other questionnaires are used in an Indonesian article which belong to online game addiction.

## **Result:**

After analyzing all data by SPSS v25, 161 (65.4%) students out of 246 students played games, but 85 students (34.6%) did not play games. As a result, of all game players, 144 (89.44%) participants were in moderate addiction, 2 participants (1.24%) had little addiction, and 15 participants (9.32%) were in severe addiction.

## **Conclusion:**

The results showed that the highest level of dependence of students was at the intermediate level, which indicates the importance of the problem and the need for the authorities to intervene in this field.

**Keywords:** Digital Games, Addiction, Digital Game Addiction, and Students.

# **Comparison of CAD/CAM and Conventional Surgical Splints in Accuracy of Orthognathic Surgical Planning: A Systematic Review and Meta-analysis**

*Dr. Afeefa Abul Barakaat, Dr. Rashna Hoshang Sukhia, Dr. Mubassar Fida  
The Agha Khan University Hospital, Karachi, Pakistan*

## **Introduction:**

With the advent of 3D computed tomography (CT) or cone beam CT (CBCT) or CAD/CAM, the process of diagnosis, treatment planning, therapeutic appliances and transfer of data to surgeon has vastly advanced.

## **Objective:**

To evaluate the accuracy between CAD/CAM and conventional splints

## **Methods:**

Online databases (PubMed, Dental and Oral Science, CINAHL, Cochrane Central Register of Controlled Trials) were systematically searched. Randomized and non-randomized control trials on human subjects were considered regardless of language or year of publication. Orthognathic patients in which both CAD/CAM and conventional splints present were included. The outcome assessed was accuracy of splints. The risk of bias in clinical trials was assessed using the Cochrane Collaboration tool. The meta-analysis was conducted using the RevMan software V.5.4. The outcome was estimated using weighted average difference and 95% confidence intervals (CIs). The studies' heterogeneity was assessed using Cochrane's heterogeneity test (I<sup>2</sup> Test).

## **Results:**

A total of six articles fulfilling the inclusion criteria were included, out of which four were included in quantitative synthesis. Accuracy of splints was analyzed in a total number of 203 patients. It was found that the CAD/CAM splints were more accurate in comparison to conventional splints. However, this difference was not statistically significant.

## **Conclusion:**

In this systematic review and meta-analysis, we assessed accuracy of 3D printed splints in comparison with conventional thermoformed milled splints among orthognathic patients and we found no significant difference with any point in three planes FH, coronal and sagittal in the meta-analysis, but the parallelogram position favors the CAD/CAM splints.

**Keywords:** CAD/CAM, Conventional, Surgical splints, Accuracy

# **Effectiveness and Efficiency of SureSmile - A Systematic Review and Meta-analysis of Retrospective Cohort Studies**

*Dr. Afeefa Abul Barakaat, Dr. Rashna Hoshang Sukhia, Dr. Mubassar Fida  
The Agha Khan University Hospital*

## **Introduction:**

With the advent of 3D technologies, the field of orthodontics has experienced rapid advancements. The SureSmile process is one of the above-mentioned technologies which provides a fully digital method for creating multibracket lingual or labial appliances.

## **Objective:**

To assess the effectiveness and efficiency of Sure Smile was the goal of this systematic research.

## **Methods:**

A thorough search was conducted of the following online databases: PubMed, Dentistry and Oral Science, CINAHL, Cochrane Central Register of Controlled Trials, and Scopus. Randomized, nonrandomized clinical trials and cohort studies on human subjects were considered regardless of language or year of publication. Orthodontic patients in which Sure Smile treatment were used as intervention and conventional treatment as control group were included. Effectiveness and efficiency was evaluated as the outcome. The quality of retrospective cohort studies was evaluated by using Newcastle Ottawa scale. The RevMan software version 5.4 was used to conduct the meta-analysis. 95% confidence intervals (CIs) and a weighted average difference were used to estimate the result. Cochrane's heterogeneity test (I<sup>2</sup> Test) was used to evaluate the heterogeneity of the studies.

## **Results:**

Eight articles that met the requirements for inclusion were incorporated into the qualitative and three into quantitative synthesis. It was found that the treatment time was shorter in the SureSmile group (95% CI, -8.27, -6.21).

## **Conclusions**

This systematic review and meta-analysis concluded that the treatment time was shorter with better ABO-OGS scores in the patients treated with Sure Smile fabricated arch wires. Sure Smile is more accurate in controlling translational (mesiodistal and vertical) tooth movements compared to rotational (torque) movements.

**Keywords:** Sure Smile, Customized arch wires, Conventional wire bending, Effectiveness, Efficiency

## **Surgical outcome of Macrodactyly of the Foot in FMIC Kabul Afghanistan**

*Ajazulhaq Amin (PGY2-Ortho), Salahuddin Siraj (MS-Ortho)*

### **Introduction:**

Macrodactyly of the foot is a rare (0.035% of all musculoskeletal defect) disorder characterized by enlargement of the soft tissue and osseous elements of the foot that impedes the development of normal function and gait.

### **Objective:**

The purpose of this study was to focus on the problems associated with macrodactyly of the foot and to report the outcome surgical treatment.

### **Methods:**

Two patients (three feet) with macrodactyly formed the basis of this retrospective review. Both patients were between 2-3 years old, and the mean duration follow up was 18months. Ray resection with debulking was done to reduce the length and width of the foot. Clinical outcomes were assessed post operatively and at the last follow up.

### **Results:**

Ray resection with debulking was performed in three feet as an initial procedure. The mean reduction of the metatarsal spread angle was 10.0° following resection of a single stage. The clinical result was excellent.

### **Conclusion:**

Macrodactyly is cosmetic and functional problem. Ray resection with debulking had excellent result in the best cosmetic and functional outcomes in the feet.

**Keywords:** Macrodactyly, Debulking, Ray resection.

## **Association of Caffeine daily dose with respiratory outcomes in preterm neonates: A retrospective study at NICU-FMIC in 2023**

*Dr. Mohammad Reza Fazel, neonatologist, Dr. Omid Ahmad Faizi.*

*NICU, FMIC, Kabul-Afghanistan*

### **Introduction:**

Preterm neonates have immature respiratory control mechanisms and more than 85% of neonates born at gestational age (GA)  $\leq 34$  weeks experience a developmental disorder known as apnea of prematurity (AOP). Preterm neonates have a higher probability of developing retinopathy of prematurity (ROP) and neurodevelopmental consequences due to apnea-associated intermittent hypoxemia. Likewise, AOP and poor respiratory drive increase the risk of extubation failure (EF) and prolonged invasive mechanical ventilation (IMV) in newborns with respiratory distress.

Caffeine citrate (CC) has been recognized as a standard for managing AOP due to a better therapeutic index, comparable enteral bioavailability, and longer half-life. Its use in preterm neonates is related to shorter IMV dependence and lower chances of EF. Neonatal studies reported a reduced risk of bronchopulmonary dysplasia (BPD) and an improved rate of very premature neonates' survival. Apnea of prematurity might persist beyond 37 weeks postmenstrual age (PMA) in preterm neonates born at GA  $< 28$  weeks.

### **Objective:**

The purpose of this study is to find the efficacy of caffeine and reduce the chance of invasive mechanical ventilation and bring down the complication of intubation and re-intubation for preterm babies.

### **Methods:**

We performed a retrospective study, and it was conducted at the NICU of the French Medical Institute for Mothers and Children Hospital in Kabul City, Afghanistan during (01/01/2023-30/12/2023). Statistical analysis was performed by SPSS v24.

### **Intervention and outcome:**

Preterm neonates  $< 34$  weeks during the study period received caffeine. All the neonates meeting the defined criteria were assigned into 2 groups, the first group was those neonates who were put in NIV/CPAP and received caffeine, and the second group received caffeine pre-extubation. The impact of caffeine therapy to prevent apnea in the first 28DOL or discharge is the primary outcome. Apnea is counted if breathing pauses for more than 20s, along with bradycardia and/or cyanosis. Neonates received at least 48h of IMV, were analyzed to compare the impact of caffeine on IMV-duration and attempts of EF, as a secondary outcome.

### **Results:**

During the study period, 984 neonates were admitted to NICU. Based on inclusion criteria 253 were analyzed for demographic and clinical characteristics. All the neonates received a loading dose (20 mg/kg) within 24hr after birth and pre-extubating, then received the maintenance dose till the regime was completed. The prophylactic use of CC-therapy initiated within 24 h of neonatal life with a loading dosage of 20 mg/kg, and a daily dosage of  $> 5$  to 10 mg/kg had a significant association to reduce the occurrence of apneic episodes, EF and reduce risk of severe/moderate-BPD.

## **Health System Strengthening at Amiri Medical Complex, Kabul, Afghanistan**

*Aziza Hashimi Infection Control Officer and Dr. Nasar Sallar*

### **Introduction:**

A well-functioning health system and harmonizing various elements to promote health and well-being. Here are the key components:

Trained and motivated health workers:

Are healthcare professionals who have received the necessary education, skills development, and ongoing training to perform their duties effectively, and who are also driven by intrinsic and extrinsic factors to deliver high-quality care. These workers not only possess the technical expertise required in their roles but are also motivated by a sense of purpose, job satisfaction, recognition, and appropriate compensation. This combination of training and motivation ensures that they are capable, committed, and responsive to the needs of patients, thereby contributing to better health outcomes and the overall efficiency of the healthcare system.

### **Funding and Health Plans:**

Refer to the financial resources and structured strategies that support the delivery of healthcare services. Funding is the allocation of financial resources from various sources, such as government budgets, private insurance, or international aid, to ensure that healthcare systems can operate effectively. Health plans are organized frameworks or policies that outline the scope of healthcare services provided to individuals or populations, including preventive care, treatment, and management of diseases. The effectiveness of health plans largely depends on the adequacy and sustainability of funding, which determines the accessibility, quality, and equity of healthcare services. Together, funding and health plans are crucial for maintaining a functional and efficient healthcare system that meets the needs of the population.

### **Methods:**

The approach to strengthening the health system in Amiri Medical Complex included a multifaceted strategy. First, infection control was established in 2016. And in 2017, Medical Test was created for the sake of employees, and in 2021, Patient Care Coordinator (PCF) was created to help patients. And in 2024, the Planning Family Department was established. An extensive assessment was conducted to identify existing gaps and inefficiencies. Based on this evaluation, targeted interventions were designed, including upgrading medical equipment, implementing advanced health information systems, and improving employee training programs. In addition, a continuous monitoring and evaluation framework was established to assess the progress and impact of these interventions.

**Results:**

The implementation of these strategic interventions yielded significant improvements across multiple dimensions of the health system in Amiri Medical Complex. The health examination test has been implemented every year and very good results have been obtained, it has decreased from 20% to 7%. The information that was considered for the health of the staff has been obtained a good performance. And in Planning's family, 468 patients, 20% of whom returned. Among the 210 patients who were introduced to Gaini, 50% of family patients were planned. The significant results included reducing patient waiting time, increasing patient satisfaction scores, and increasing clinical results. The introduction of advanced health information systems facilitated better management of patient data and simpler workflows, leading to more efficient service delivery. In addition, investment in staff training and development has resulted in a more skilled and motivated workforce, contributing to the overall improvement of health care services.

The health system strengthening initiative at Amiri Medical Complex demonstrated that targeted, strategic interventions could significantly enhance healthcare delivery and outcomes. By addressing infrastructural gaps, enhancing workforce capabilities, and leveraging advanced technologies, the complex was able to achieve substantial improvements in efficiency and patient care quality. These results underscore the importance of a comprehensive approach to health system strengthening and provide a valuable model for other healthcare institutions seeking to improve their systems.



## **Result of treatment of congenital pseudoarthrosis of the tibia by cross-union technique in FMIC, Kabul, Afghanistan**

*Mirza Mohammad Nijrabi Head of Orthopedic Department, Mohammad Taqi Ehsani (PGY2)*

### **Introduction:**

Congenital pseudoarthrosis of the tibia (CPT) is a rare condition with a well-known failure of treatment, recurrent fractures, or failure to achieve union by multiple surgeries as well as a large variety of surgical procedures. Several surgical procedures have been attempted for the treatment of CPT, with an average rate of union without refractures of only 50%. CPT is most commonly associated with neurofibromatosis type 1 (NF1) in 50–90% of cases. The Paley cross-union technique brings a significant result of 100% union without any case of refractures. This study aims to evaluate the Paley cross-union technique for congenital pseudoarthrosis of the tibia among children at FMIC, Kabul, Afghanistan.

### **Methods:**

A retrospective review of 10 patients with CPT (with refractory fractures and obvious deformities) who were treated at FMIC from February 2023 to July 2024. All patients came for follow-up and were included in this study.

### **Results:**

The mean age of patients at the time of surgery was 8.3 years (range: 2y to 13y), CPT associated with NF1 was 80% (8 patients), male to female ratio was 3:2, and all of the cases were unilateral (right side: 70%, left side: 30%). The mean follow-up period was 10.5 months (range between 6m and 18m), and all the 10 cases (100%) of the patients had final healing with 0% of refracture cases with few postoperative complications (which does not affect the union).

### **Conclusion:**

The Paley cross-union technique is a revolutionary technique that was introduced and practiced by Dr. Dror Paley and attempted by our department with excellent results for congenital pseudoarthrosis of the tibia (CPT).

**Keywords:** congenital pseudarthrosis of the tibia, cross-union technique, refracture, nonunion, neurofibromatosis 1, NF1.

# **Blood Exchange Transfusion Safety and Outcomes in Neonatal Hyperbilirubinemia at FMIC, retrospective study in two years**

*Dr. Omid Ahmad Faizi, Dr. Ahmad Sohail Karimi, Mrs Maqbula Sahar  
NICU-FMIC*

## **Introduction:**

Hyperbilirubinemia affects up to 85% of neonates born at term gestation ( $\geq 37$  weeks gestational age [GA]) and 80% of premature newborns. While severe hyperbilirubinemia (total serum bilirubin [TSB] level of  $> 30$  mg/dL). The prevalence of bilirubin encephalopathy is thought to be around 4%. In addition, although small case series have described survivors with neurologic sequelae associated with hyperbilirubinemia in term infants, there are no data on the prevalence of kernicterus in survivors. Kernicterus is preventable through the use of phototherapy, treatment with intravenous immunoglobulins (IVIG), or the use of exchange transfusion (ET) to lower serum bilirubin levels. Phototherapy is an effective, noninvasive, first-line treatment to lower the levels of unconjugated bilirubin. IVIG has some support as an adjuvant therapy for hyperbilirubinemia in cases of Rh hemolytic disease, although the efficacy is controversial. ET is more efficient at reducing bilirubin levels and is often used when maximal phototherapy and/or IVIG are unsuccessful or when hemolysis is excessive; however, ET has known complications including vascular accidents, cardiovascular compromise, and electrolyte and hematologic derangement. Furthermore, infants undergoing ET are at higher risk of requiring intubation and mechanical ventilation, both of which are associated with additional complications.

## **Objective:**

To characterize the prevalence of exchange transfusion (ET), clinical characteristics of infants receiving ET, and decreasing the ET-associated morbidity and mortality.

## **Methods:**

We conducted a retrospective study of infants  $\geq 26$  weeks of gestational age (GA) with hyperbilirubinemia who underwent ET within 7 days of birth in 2022 and 2023. We examined clinical characteristics and adverse events after ET. We used multivariable logistic regression to examine the association between clinical risk factors and death. 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 (01/01/2022-30/12/2023). Statistical analysis was performed by SPSS v24.

## **Results:**

A total of 65 neonates  $\geq 26$  weeks underwent ET. Overall, the number of infants receiving ET decreased from a maximum of 0.3% to a minimum of 0.05% of all infants  $\geq 26$  weeks in our study population over the course of the study period. Among the infants who underwent ET, the median (25th–75th percentile) GA and birthweight of infants receiving ET were 37 weeks (33–38 weeks) and 2789 g (1928–3275 g), respectively. A slight majority of infants were male (55%), and the majority (91%) of the study population received only one ET, and 14% of the study population received IVIG prior to ET (Table 1). The median postnatal age at the time of ET was 1 day (0 and 3 days) with more than one quarter of infants receiving an ET on the day of birth; median postnatal age at discharge was 11 days (7 and 24). There was a slight decrease in median bilirubin level (mg/dL) after ET, with stable levels between 1- and 7-days following ET (Table 2). Less than half of the infants received respiratory support prior to ET (46%), and of those not receiving respiratory support, (10%)

received respiratory support within 7 days after ET. While a relatively large proportion of infants received mechanical ventilation prior to receiving an ET (23%), few of those not receiving ventilation began receiving mechanical ventilation within seven days post ET (3%). The most common adverse effect of ET was thrombocytopenia for 7 days following ET, which affected 64% of our study population. Of 52 infants without platelet evaluation within 7 days who had platelet evaluation on the day of ET, 7 (13%) had thrombocytopenia on the day of ET. Hyperkalemia affected 5% by 7 days after ET, (6%) had hyperkalemia on the day of ET. Hypocalcemia was not detected prior to ET, but appeared in 2% of infants whose calcium was measured within 7 days following ET. Of 15 infants without calcium evaluation within 7 days who had calcium evaluation on the day of ET, (7%) had hypocalcemia on the day of ET. Prior to ET, sepsis occurred in 2% of patients, while within 7 days after ET, only 0.6% developed a new episode sepsis. The incidence of NEC was <1% at all time periods evaluated, the incidence of seizures was documented to be similar at 2% prior to ET and 2% on 7 days after ET, Hospital mortality could be determined for (93%) infants. A total of 4% of infants receiving ET died within 7 days following ET; overall hospital mortality was 6%. Infants  $\leq$  29 weeks of GA had the highest mortality within 7 days after ET, 17%. Of the infants who died during hospitalization, none developed NEC, two developed seizures, and five developed IVH within the 7 days post ET. On adjusted analysis, there was no significant association between death during hospitalization and maximum TSB.

**Conclusion:**

Infants  $\leq$  28 weeks of GA had greater odds of death following ET compared with term infants. These data will support clinicians in evaluating risks and prognosis for infants who require ET and with the early exchange transfusion along with decreasing the risk of infection, the risk of complication, the risk of death, prolong length of stay was decreased.

# **Descriptive epidemiology of Acute Flaccid Paralysis (AFP) cases in Helmand, Afghanistan 2020-2022**

*Atiqullah Mohammadi<sup>1</sup>, Khwaja Mir Islam Saeed<sup>2</sup>, Mir Salamuddin Hakim<sup>2</sup>, Shoaib Naeem<sup>2</sup>*

## **Introduction:**

Globally, Poliomyelitis is a public health concern and being endemic in Afghanistan and Pakistan. The world health organization has pledged to make the world polio-free by implementing polio vaccine and detection of AFP new cases based on its four key strategies. There are AFP cases reported from all provinces of Afghanistan.

## **Objective:**

Study describes the AFP cases during 2020 and 2022 in Helmand province.

## **Methods:**

A descriptive study was conducted by analyzing secondary data from the National Expanded Program on Immunization (NEPI) and AFP surveillance through Epi Info 7.2.1 and MS Excel. Helmand AFP data from 2020 to 2022 were used in this study. Frequencies and percentages were calculated and means, tables, graphs were provided accordingly.

## **Results:**

Totally, 986 AFP cases were reported from 2020 to 2022. The number of reported cases increased gradually from 246 cases (24.9%) in 2020 to 313 cases (31.7%) in 2021 and 427 (43.3%) in 2022. Out of all cases, 551 (56%) were male, and 435 (44%) were female. The mean age in months was 45.94 months; in most of the cases, 951 (96%) have been reported with fever. Guillain-Barre syndrome (GBS), monoplegia, Diplegia, and Cauda Equina syndrome were the most common causes of AFP-reported cases. Many cases 227 (23%) were reported from Nahr-e-Saraj district, and the least number of cases 5 (0.50%) were reported from Deh-e-Shu district.

## **Conclusion:**

AFP surveillance case detection shows successful improvements over the previous years, with no positive polio case reported. AFP cases were high among males and most of the cases were reported from Nahr-r-Saraj district. AFP surveillance system strengthening, raising awareness, and polio vaccination efforts are recommended through this study.

**Keywords:** AFP, Polio, Helmand, Afghanistan.

# **Descriptive analysis of Measles outbreaks in Kabul, Afghanistan: A descriptive study, 2023**

*Jamalliden Mudafi<sup>1</sup>, Khwaja Mir Islam Saeed<sup>2</sup>, Mir Salamuddin Hakim<sup>2</sup>, Shoaib Naeemi<sup>2</sup>*

## **Introduction:**

Regardless the availability of vaccines, measles remains the major cause of morbidity and mortality among the children of under 5 years. In 2022, Afghanistan reported 5484 measles cases with approximately 300 deaths.

## **Objective:**

This study analyzed the outbreaks and incidence rate of measles in Kabul, Afghanistan.

## **Methods:**

A descriptive study focusing on review of 12 measles outbreaks was conducted in October 2023. The team extracted and compiled the national data of measles cases reported in outbreaks in Kabul, Afghanistan from March to September 2023. We used the DHIS-2 database of the Ministry of Public Health. Data was extracted, managed and analyzed using MS Excel and Epi Info 7.2.1.

## **Results:**

Totally 94 measles cases were reported from the outbreaks, of whom 40 (42.6%) were females and 54 (57.4%) were males. Under-5 years children were the least affected in the outbreaks with a frequency of 42 (44.7%). The most reported clinical features were rash 90 (95.74%), fever 86 (91.5%), conjunctivitis 67 (71.3%), Koplik spot 45 (47.9%) and the least reported was cough 60 (60.8%). This study also found that among total cases 18 (19.15%) were vaccinated and no deaths were reported. Each outbreak was confirmed by taking a few samples and testing in public health laboratories. Most of the cases 53 (65.4%) were recorded in urban areas.

## **Conclusion:**

Measles outbreaks affected urban districts, and cases were high among children under 5 years. The health authorities should focus on routine immunization and launching campaigns in urban areas where outbreaks occurred. More studies to find the root causes and elimination of disease, strengthening the surveillance system for measles is recommended.

**Keywords:** Outbreak, Measles, Kabul, Afghanistan.

# **Descriptive epidemiology of Crimean-Congo Hemorrhagic Fever (CCHF) outbreak in Jawzjan, 2023**

*Mohammad Asef Rasouli<sup>1</sup>, Khwaja Mir Islam Saeed<sup>2</sup>, Mir Salamuddin Hakim<sup>2</sup>, Shoaib Naeem<sup>2</sup>*

## **Introduction:**

Crimean and Congo hemorrhagic fever (CCHF) is an acute fever and bleeding disease that is transmitted through tick bites or contact with blood or secretions or carcass of infected animals and humans. Afghanistan is endemic for CCHF, with many cases and deaths. The outbreak occurred in May 2023, affecting the health staff of Jawzjan provincial hospital in which the cases were admitted. The surveillance (NDSR) department formed an inspection team after the emergency (EPR) committee and investigated the outbreak.

## **Objective:**

This study aims to describe the CCHF outbreak in Jawzjan province.

## **Methods:**

Descriptive secondary analysis of CCHF data from Jawzjan surveillance CCHF outbreak dataset was conducted. Data of the outbreak which occurred in Kham-Aab district of Jawzjan province was used and analyzed in this study. Data was extracted, managed, and analyzed using MS Excel and Epi Info 7.2.1.

## **Results:**

A total of 33 CCHF cases were registered from January 2023 to December 2023 from Jawzjan provincial hospital during the outbreak. The outbreak started on the 2nd week of May 2023. From the total cases, 13 (39.3%) were females and 23 (60.6%) were males. Test results for 8 (24.2%) cases were positive and these CCHF cases were hospitalized.

## **Conclusion:**

This study showed a high rate of CCHF reported in Jawzjan province compared to previous years. People have been affected mostly during Eid-ul-Adha days. Raising awareness, health promotion activities for people in contact with herds, tick spray and preventive measures are required to prevent the CCHF cases and outbreaks.

**Key words:** CCHF, Jawzjan, Afghanistan

## **Descriptive epidemiology of AWD (suspected cholera) outbreak in Qaisar district of Faryab province, 2023**

*Homayoon Aahee<sup>1</sup>, Khwaja Mir Islam Saeed<sup>2</sup>, Mir Salamuddin Hakim<sup>2</sup>, Shoaib Naeem<sup>2</sup>*

### **Introduction:**

Acute watery diarrhea with dehydration (AWD) is an acute diarrheal disease caused by ingestion of food or water contaminated with the bacterium *Vibrio cholera*. AWD remains a global threat to public health and an indicator of inequity and lack of social development. Afghanistan reports thousands of AWD cases with a considerable number of deaths annually.

### **Objective:**

This study aims to describe AWD outbreak in Qaisar district of Faryab province which occurred during 2022.

### **Methods:**

Descriptive analysis of secondary data from Faryab surveillance outbreak dataset conducted. This study used data from the National Disease Surveillance and Response (NDSR) for the outbreak that occurred in Qaisar district in 2022. Data was extracted, managed, and analyzed using MS Excel and Epi Info 7.2.1.

### **Results:**

A total of 832 Acute Watery Diarrhea (AWD) cases with dehydration were reported and registered in Qaisar districts of Faryab province during the outbreak. The outbreak started on 08 September and subsided up to 16 September 2022. From the total cases, 339 (40.75%) were females and 493 (59.25%) were males. All the suspected or clinical/lab confirmed cases were Hospitalized and received intra vein fluid. 9 cases were laboratory confirmed, and 3 cases died due to severity of the symptoms and being late to the health facility.

Conclusion:

Qaisar city has the highest rate of reported AWD cases in Faryab province. Most of the cases were among males and the mortality is high. Attention should be directed to immunization of under 2 years, AWD surveillance and routine Rota vaccination efforts should be strengthened.

**Key words:** AWD, Faryab, Afghanistan

## **Descriptive study of Malaria Cases in East Region of Afghanistan, 2023**

*Mohammad Nawaz Nawas<sup>1</sup>, Khwaja Mir Islam Saeed<sup>2</sup>, Mir Salamuddin Hakim<sup>2</sup>, Shoaib Naeem<sup>2</sup>*

### **Introduction:**

Currently, malaria is one of the main public health concerns in the world. There are many cases and deaths reported from Afghanistan. East region is one of the endemic areas for malaria in Afghanistan with the highest malaria incidence.

### **Objective:**

This study describes malaria cases in east region of Afghanistan.

### **Methods:**

A descriptive study using secondary data of malaria cases was conducted in October 2023. The team extracted and compiled the national data of malaria cases reported from Malaria and other Vector Borne Diseases (MVDP) Department in east region from Jan to Dec 2023. We used the DHIS-2 databases of the Ministry of Public Health as well. Data were managed and analyzed using MS Excel and Epi Info 7.2.1.

### **Results:**

A total of 61,939 malaria cases were reported from Nangarhar, Laghman, Kunar, and Nuristan provinces. Most of the cases 30,392 (49%) were reported from Nangarhar province, and the least cases 9,437 (15.2%) were from Kunar province. From the total cases, 15,526 (25%) were over five years and 15,436 (24.9%) cases were under five years among females. Furthermore, 15,536 (25%) cases were over five years and 15,438 (24.9%) were under five years among males. From the total cases, 39,861 (64.3%) were recorded and reported in health facilities and 22,078 (35.7%) were recorded and reported in health posts.

### **Conclusion:**

Most of the malaria cases occurred in Nangarhar province and most of those who were infected were over 5 years old males. It is recommended to raise awareness and knowledge of people living in tropical regions such as the east region. In addition, preventive measures such as elimination of swamps, and distribution of bed nets (LLINs) are recommended.

**Keywords:** Malaria, East Region, Afghanistan.



## **Descriptive study of Malaria cases in Paktika province, 2023**

*Mohammad Qasam Naei<sup>1</sup>, Khurshid Alam sarwari<sup>2</sup>, Khawaja Mir Islam Saed<sup>3</sup>, Shoaib Naeemi<sup>3</sup>, Mir Salamuddin Hakeem<sup>3</sup>*

### **Introduction:**

Malaria is a severe and occasionally fatal tropical disease that is brought on by a parasite and spread by mosquitoes. Over 445 000 people are killed by it every year, of which majority are the youngsters from Africa. Among developing countries, Afghanistan is still one of the endemic areas with Malaria cases and deaths with a special focus in the east region.

### **Objective:**

This study describes Malaria cases in Paktika province during 2023.

### **Methods:**

A descriptive analysis of secondary data from DHIS2 based on MLIS, MLR, and MIAR reports was conducted in October 2023. Malaria data for Paktika province during 2023 was used in this study. Data was extracted, managed, and analyzed using MS Excel and Epi Info 7.2.1.

### **Results:**

A total number of 2196 malaria cases were reported, diagnosed, and treated during the first nine 9 months of 2023 in Paktika province. Cases were reported from different levels of community health workers and health facilities. From the total cases, Plasmodium Vivax was the most 1242 (56.5%) reported. In addition, the study showed an increase in cases at the Katawaz region of Paktika, where the bed nets haven't been distributed for the last five years. The most affected district was Wazikhawa which is the central district for Gomal, Woor May and Tarwee districts.

### **Conclusion:**

Paktika is the second high risk area for malaria after east region of Afghanistan. Most of the cases were Plasmodium Vivax, and cases were high in areas without bed nets. Awareness should be raised and activities for prevention, elimination of sewers, distribution of LLIN are highly recommended.

**Keywords:** Malaria, Paktika, Afghanistan

## **Descriptive study of Pneumonia cases in Parwan province, 2021-2023**

*Ahmad Tawfiq Saleh<sup>1</sup>, Khwaja Mir Islam Saeed<sup>2</sup>, Mir Salamuddin Hakim<sup>2</sup>, Shoaib Naeem<sup>2</sup>*

### **Introduction:**

Pneumonia is a leading cause of morbidity and mortality with different etiologies. It is a severe form of acute lower respiratory infection that specifically causes inflammation of one or both lungs. Pneumonia is a public health concern in Afghanistan with more than thousands of cases annually.

### **Objective:**

This study aims to describe Pneumonia cases and incidence in Parwan province during 2021 and 2023.

### **Methods:**

A descriptive secondary data analysis was conducted from all the pneumonia cases using Microsoft Excel and Epi Info 7.2.1. in October 2023. The data, including 269,910 pneumonia cases from Parwan province, were extracted from DHIS2, covering the period from January 2021 to September 2023.

### **Results:**

The results indicate that the prevalence of pneumonia in the East and North regions of Afghanistan was 19%, in the Central East region it was 14%, in the Central West region it was 11%, and in the rest of the regions, it was lower than 10%. A total of 269,910 pneumonia cases were reported from Parwan province during January 2021 to September 2023. Among all cases, 126,914 (47%) were male and 142,996 (53%) were female.

### **Conclusion:**

According to the results, the Prevalence of pneumonia is slightly higher in female than in male. Prevalence of Pneumonia in Parwan Province was higher in 2022. 2023 is not finished but the rate of Pneumonia is equal to 2021. Strengthening community awareness and demand for these interventions, as well as reinforcing healthy behaviors, are vital to make sustainable progress in reducing preventable deaths due to pneumonia.

**Keywords:** Pneumonia, Parwan, Afghanistan

# Integrating Mental Health and Psychosocial Support into the Child Protection Program in Afghanistan: A Learning Needs Assessment

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## Introduction:

The mental health and psychosocial needs of Afghan children have been severely impacted by decades of conflict and instability in the country. To address this, the integration of mental health and psychosocial support (MHPSS) into child protection (CP) programs is critical. This learning needs assessment aimed to identify gaps in existing MHPSS implementation guidelines and the learning needs of MHPSS providers within CP programs in Afghanistan.

## Methods:

The study used a mixed-methods rapid learning needs assessment approach to evaluate the integration of mental health and psychosocial support (MHPSS) into Afghanistan's child protection (CP) program. This included a desk review of relevant documents, focus group discussions with 16 CP partners, individual interviews with 6 MHPSS providers, and qualitative analysis using the WHO/UNHCR 4Ws toolkit. This comprehensive assessment enabled the identification of gaps and development of targeted recommendations to strengthen MHPSS within the CP framework.

## Results:

The rapid learning needs assessment identified gaps in MHPSS integration into the child protection (CP) program in Afghanistan. While MHPSS is part of the CP program, the reviewed documents showed the MHPSS-related content did not adequately address the needs of relevant MHPSS providers. The MHPSS services provided by CP partners included individual, group, and family counseling, play therapy, and awareness-raising. However, the referral mechanism was found to be sub-optimal. MHPSS providers had diverse educational backgrounds and training experiences. They proposed a specific MHPSS training guideline and capacity-building program aligned to the CP program's needs. Gaps were identified in understanding MHPSS, client-focused communication, and content for adolescents, children, and GBV survivors.

## Conclusion:

This assessment identified critical gaps in integrating mental health and psychosocial support (MHPSS) into Afghanistan's child protection (CP) program. Current MHPSS training does not meet provider competency needs, and a customized, competency-based curriculum is required. Strengthening referral mechanisms and MHPSS guidelines are crucial for effective integration into the CP framework. Addressing these gaps is important for enhancing MHPSS services for vulnerable Afghan children.

## Acknowledgments:

This rapid learning needs assessment was funded and technically supported by UNICEF Afghanistan. The research team is grateful for UNICEF's partnership and guidance.

## **Early Determination of Prognosis in Neonatal Moderate or Severe Hypoxic-Ischemic Encephalopathy, retrospective study at NICU-FMIC**

*Dr. Omid Ahmad Faizi, Dr. Haji. Mohammad shaheer, Mrs Maqbula Sahar  
NICU-FMIC.*

### **Introduction:**

Hypoxic-ischemic encephalopathy (HIE) continues to be a major contributor to neonatal mortality and lifelong morbidity worldwide. Therapeutic hypothermia reduces the risk of death or major neurodevelopmental impairment in infants diagnosed with HIE, but poor outcomes are still relatively common. Early determination of prognosis is important in neonates with abstract hypoxic-ischemic encephalopathy (HIE).

### **Objective:**

Our objective was to test scoring systems developed earlier (original scoring system) and develop new prognostic models.

### **Methods:**

We performed a retrospective cross-sectional study was conducted on neonates at the Neonatal Intensive Care Unit of the French Medical Institute for Mothers and Children Hospital in Kabul City, Afghanistan during (01/01/2023-30/12/2023). Statistical analysis was performed by SPSS v24.

### **Results:**

Many variables considered for inclusion in model development demonstrated associations with death or moderate or severe disability or with death during initial hospitalization, as expected. Overall, of 63 infants with moderate encephalopathy, (21%) had moderate or severe disability or death, whereas (79%) were normal or had mild disability. Of 14 infants with severe encephalopathy, (65%) had moderate or severe disability or death, whereas (35%) were normal or had mild disability. For death or disability, the original scoring system correctly classified 75% (95% confidence interval: 69%–81%), whereas the new scoring system correctly classified 78% (73%–82%), and the CART model correctly classified 76% (72%–81%). Early neurologic clinical examination also had a correct classification rate of 76% (71%–80%). Depth and duration of cooling did not affect prediction. Only a few components of the early neurologic examination were associated with poor outcome. For death, the original scoring system correctly classified 72% (66%–77%), the new scoring system 68% (63%–72%), the new CART model 87% (83%–90%), and early neurologic evaluation 81% (77%–85%). The absence of spontaneous activity was the strongest predictor of poor outcome in the recent study. These models may not be suitable as the sole basis for clinical decisions but can serve to supplement clinical decision-making as an objective aid.

### **Conclusion:**

The 3 models (scoring system, CART, and early neurologic evaluation) were comparable in predicting death or disability. For in-hospital death, CART models were superior to scoring systems and early neurologic examination.

# **Combined lesion of central giant cell granuloma and ossifying fibroma: A case report of a rare event in oral cavity Diagnosed at tertiary level in Afghanistan**

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## **Introduction:**

Giant cell granulomas (GCG) and ossifying fibroma of the jaw are benign reactive lesions. GCG is characterized by the presence of abundant multinucleated giant cells in a cellular stroma. On the other hand, the characteristic feature of OF is benign connective tissue replaces the normal bone. Combination of these two lesions, GCG with OF, in the jaw is extremely rare.

## **Case presentation**

A 35-year-old woman presented with complains of right jaw swelling with no history of previous disease or lesion and no family history of such lesions. By physical examination, a painful swelling in the right jaw was observed. A computed tomography scan of the facial bone showed a large, expansible, lytic lesion with narrow zone of transition and internal septations, involving the right side of the maxilla and floor of the right maxillary sinus. Histopathologic examination revealed a lesion with combined features of OF and GCG.

## **Clinical discussion:**

GCG and OF are two of the most frequent oral lesions. The presence of both tumors in one patient as a combined lesion is highly unusual, with only a few reported cases in the literature. On clinical and radiologic examinations, diagnosing such a combined lesion is not possible, however, such lesions can be easily diagnosed by microscopic examination, indicating the importance of pathologic examination.

## **Conclusion:**

The occurrence of the combined OF and GCG is a rare event. Proper histopathologic evaluation can contribute to accurate diagnosis and better management of such lesions. Confirmative diagnosis of such lesions by radiology alone is not possible.

## **Abbreviations:**

CGCG, central giant cell granuloma; PGCG, peripheral giant cell granuloma; OF, ossifying fibroma; H&E, hematoxylin & eosin

## **Early progression to blast crisis in a case of Philadelphia chromosome positive chronic myeloid leukaemia with trisomy 21, treated with Imatinib**

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### **Introduction:**

BCR-ABL1 resulting from t (9;22) is the oncogenic driver of CML and the therapeutic target of the disease. Molecular studies have been the gold-standard modality for patient assessment, since the advent of TKI therapy. In spite of that, there are cytogenetic abnormalities that can render the disease unresponsive to conventional therapy, thus making cytogenetics to be an important component of patient management guidelines in CML.

### **Case Presentation:**

We present a case of CML with pathognomonic Philadelphia chromosome and additional chromosomal abnormality in the form of trisomy of chromosome 21. The patient progressed to blast crisis in a matter of one month. Fortunately, the patient responded to Imatinib and achieved remission within a span of two months.

### **Conclusion:**

To the best of our knowledge this was the first case of CML demonstrating presence of chromosome 21 trisomy along with the Philadelphia chromosome. Additional chromosomal abnormalities have significant effect on the presentation of CML as well as prognosis of the disease.

**Keywords:** blast crisis, chronic myeloid leukaemia, Philadelphia positive, trisomy 21

## **Assessment of Mental Health and Psychosocial Support Service Gaps and Learning Needs in GBV Programs in Afghanistan: A Qualitative Study**

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*<sup>2</sup>Research Department, HealthNet TPO, Kabul-Afghanistan*

### **Introduction:**

In Afghanistan, integrating Mental Health and Psychosocial Support (MHPSS) into Gender-Based Violence (GBV) programs is essential for providing comprehensive care to survivors. However, significant gaps persist, particularly in the context of ongoing political and social challenges that have heightened the vulnerability of women and children.

### **Objective:**

To identify gaps in MHPSS services and assess the training needs of GBV service providers in four Afghan provinces, with the goal of enhancing service integration and improving support for survivors.

### **Methods:**

A qualitative approach was employed, involving 14 Key Informant Interviews (KIs) with service providers, supervisors, and UNICEF staff, and 4 Focus Group Discussions (FGDs) across the four provinces. Thematic analysis was applied to identify service gaps and training needs, supported by a desk review of relevant guidelines and protocols.

### **Results:**

The assessment revealed several critical findings regarding the availability and quality of MHPSS services within GBV programs. While basic services such as individual and group counseling are available, there are substantial gaps in more specialized support, particularly in Psychological First Aid (PFA) and legal services for GBV survivors. Only about 30% of respondents reported that their organizations offered PFA services, indicating a significant shortfall in this essential area.

Cultural norms, family restrictions, and financial barriers were identified by over 60% of respondents as primary obstacles preventing survivors from accessing MHPSS services. Additionally, a widespread lack of awareness and trust in available resources was reported, with nearly 75% of respondents citing these as significant challenges.

The knowledge and skills of service providers were assessed as moderate, with most scoring between 5 and 7 on a 10-point scale. Approximately 80% of the participants expressed a strong need for further training in MHPSS, specifically in areas such as trauma-informed care and the integration of MHPSS with GBV response strategies.

### **Conclusion:**

The assessment underscores the urgent need for improved integration of MHPSS within GBV programs, particularly in enhancing specialized services and building provider capacity. Addressing these gaps is crucial to strengthening the support system for GBV survivors, particularly the most vulnerable women and children in Afghanistan.

## **Iatrogenic gastric perforation in a neonate: A case report**

*Hamid Khaliqi, Mohammad Tareq Rahimi, Roohullah Hares, Soghra Khaliqi*

### **Introduction:**

Neonatal gastric perforation (NGP) is a life-threatening condition with a high mortality rate. It accounts for 7% of all gastrointestinal tract (GIT) perforations. The number of NGP cases has been increasing due to the rise in premature and low birth weight neonates. [1] The causes and predisposing factors for gastric perforation in a neonate vary from traumatic to benign conditions like inflammatory processes. Early detection, intensive care, stabilization and prompt surgery yield positive outcome [2]. We present a case of iatrogenic gastric perforation in a 7-day-old infant.

### **Case presentation:**

A four-hour-old newborn was brought to the emergency department with symptoms of fast breathing, cyanosis, and dyspnea. The patient, delivered via normal vaginal delivery, was admitted to the Neonatal Intensive Care Unit (NICU) with a provisional diagnosis of birth asphyxia. As part of the initial management, the newborn was intubated to address respiratory issues. Given the presence of respiratory distress, nasogastric (NG) tube was applied multiple times to reduce abdominal distension and improve ventilation. One week later, the patient's abdomen became significantly distended, an abdominal X-ray was performed, revealing pneumoperitoneum. Consequently, the NICU physicians consulted with pediatric surgeons, and an urgent laparotomy was planned.

During the surgical procedure, a perforation measuring 1.5 x 1.5 cm was identified on the anterior surface near to the greater curvature of the stomach. The perforation site had fresh, everted, bleeding margins along with blood clots. The repair of the perforation was done in layers, subsequently closing the incision. The postoperative period was uneventful, indicating a successful intervention.

### **Conclusion:**

Premature neonates are at high risk of iatrogenic gastric perforation, especially if NG tube is not applied by an expert clinician.



## **Real-world Effectiveness and Safety of Handheld Ultrasound in Pleural procedures**

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### **Introduction:**

The use of ultrasound for pleural procedures is associated with a decrease in risk of complications. Handheld ultrasounds allow for easier evaluation of the pleural space. Limited data exists for the use of such devices for pleural procedures. The primary objective of our study was to assess the effectiveness and safety of handheld ultrasound for pleural procedures.

### **Materials and Methods:**

We performed a prospective observational study, including all consecutive patients that underwent pleural procedures using the handheld ultrasound between September 2021 and November 2023.

### **Results:**

A total of 332 pleural procedures were attempted with a handheld ultrasound, of which 329 pleural procedures (99.1%) were successfully performed. The median volume of fluid drained was 500 (IQR 300-800). Thoracentesis was performed in 127 patients (38.5%), tube thoracostomy in 202 patients (61.4%), and medical thoracoscopy in 23 patients (7.0%). Exudative pleural effusions were found in 264 patients (80.0%), of which 152 (46.2%) were determined to be due to infectious etiologies. A total of 4 (1.2%) patients had a complication due to the procedure. Two patients (0.6%) had a pneumothorax, while two patients (0.6%) developed a hemothorax. A total of 101 patients had either low platelets ( $<50 \times 10^9/L$ ), or use of anti-platelet or anti-coagulants drugs. 128 patients (38.8%) were on positive pressure support during the pleural procedure.

### **Conclusion:**

Our study shows that handheld ultrasounds are effective and safe for pleural procedures, including cases with septated pleural effusions, and patients on anti-platelet or anti-coagulant drugs.

## **Amyand's Hernia Associated with Situs Inversus in a child: A Case Report**

*Farshad Ameer, Mohammad Tareq Rahimi, Roohullah Hares*

### **Introduction:**

Amyand's hernia, characterized by the incarceration of the appendix within an inguinal hernia, is a rare condition, occurring in approximately 1% of inguinal hernia cases. Complications such as acute appendicitis or perforated appendicitis are even less common, with an incidence of around 0.1%. Diagnosing Amyand's hernia preoperatively is challenging, and it is often discovered incidentally during surgery. Inguinal hernias constitute 75% of abdominal wall hernias. Amyand's hernia was first described by Claudius Amyand in 1735 in an 11-year-old boy. The condition remains infrequent, with an incidence of approximately 0.5-1%. The presentation of acute appendicitis within the inguinal sac is notably rare. Differential diagnoses include strangulated hernia, strangulated omentocoele, Richter's hernia, testicular tumor with hemorrhage, acute hydrocele, inguinal adenitis, and epididymitis. The relationship between the presence of the appendix in the inguinal sac and the development of appendicitis is not well understood. Patients may present with abscesses that appear as inguinal masses.

### **Case Presentation:**

A 14-month-old male presented to the emergency department with severe abdominal pain, vomiting, and fever. The child was irritable and crying, with a distended abdomen and notable swelling on the left side of the scrotum. Physical examination revealed tenderness in the left lower quadrant of the abdomen and the left scrotum. Abdominal ultrasonography identified a left-sided incarcerated hernia. The patient was scheduled for a herniotomy based on the clinical presentation and ultrasound findings. Intraoperatively, the hernial sac contained an inflamed appendix. Both appendectomy and herniotomy were performed, and the excised appendix was sent for histopathological examination, which confirmed appendicitis. The patient recovered well and was discharged in stable condition after two days.

### **Conclusion:**

Amyand's hernia, particularly in the context of situs inversus, remains a rare and challenging condition. As illustrated by this case, Amyand's hernia requires prompt diagnosis and intervention due to its complexity and the limitations of preoperative imaging techniques. Appendectomy is typically warranted in such cases, as appendicitis is frequently present.

## Successful management of medullary Cyst in a child: A case report

*Mohammad Nowroz Paiwand, Mohammad Tareq Rahimi, Roohullah Hares, Nawaz Sharif Kashaf*

### Introduction:

Central nervous system tumors are the most prevalent solid neoplasms in the pediatric population, representing 20% of cancer-related deaths and ranking second to leukemia in overall cancer incidence. Diagnosis of brain tumors relies on factors such as location, age, and cell type. The brain is anatomically divided by the tentorium into supratentorial and infratentorial compartments, influencing tumor location. Pediatric brain tumors are evenly distributed between these compartments, with a tendency for supratentorial tumors in children under 2 years and infratentorial tumors in those aged 3 to 15. Prognosis varies, with young children often having poorer outcomes except in cases like choroid plexus papilloma.

### Case Presentation:

A 12-year-old male presented with symptoms including severe headache for 25 days, unilateral weakness in the right limbs for 2 weeks, and vomiting and nausea for 2 days. Physical examination revealed right-sided limb weakness, with vital signs showing BP: 104/64 mmHg, HR: 72/min, RR: 22/min, Temperature: 37°C, SpO<sub>2</sub>: 98%, and GCS: 11. MRI of the brain identified a cystic lesion in the medulla, measuring 19×26×24 mm, with mass effect on the brainstem. Laboratory results showed Hb: 12.5 g/dL, HCT: 32%, WBC: 13.1 x10<sup>9</sup>/L, with normal PT, APTT, BUN, CR, and electrolytes.

### Treatment and Outcome:

A multidisciplinary approach was adopted. The family was informed about the surgical risks and potential for relapse. The surgical team, including neurosurgery, anesthesia, and ICU specialists, planned and executed a craniotomy. The cyst was drained, and a cyst peritoneal shunt was placed. Post-operatively, the patient was monitored in the ICU for 28 hours and then transferred to the ward. Recovery was notable, with significant improvement in motor function. The patient returned with symptoms of headache, anorexia, and drowsiness. CT scan revealed a recurrent cystic lesion and displacement of the drainage tube. Reoperation confirmed the displacement and rupture of the cyst capsule, which was subsequently removed. A cysto peritoneal shunt was applied. The patient's condition improved significantly post-surgery, and he was discharged in stable condition with no further complaints upon follow-up.

### Conclusion:

Advances over the past two decades have highlighted the heterogeneous nature of brainstem gliomas and the potential for long-term survival following aggressive treatment. While the removal of exophytic portions is generally accepted, the management of intrinsic brainstem tumors remains debated. Neurosurgeons must carefully consider the extent of surgical intervention for tumors of the medulla to optimize outcomes.

# **Burden and Etiologies of Neonatal and Child Mortality at a Tertiary Care Hospital in Kabul-Afghanistan**

*Dr. Sayed Farid Abdal  
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## **Introduction:**

Afghanistan faces a significant burden of neonatal and child mortality, with an under-5 mortality rate of 49.9 deaths per 1,000 live births, more than double the global average. The country's neonatal mortality rate is also high at 25 deaths per 1,000 live births, compared to the global average of 18. Understanding current trends and causes of these deaths is crucial for designing targeted interventions to improve survival.

## **Objective:**

To examine the burden and etiologies of neonatal and child mortality at a major tertiary care hospital in Kabul, Afghanistan.

## **Methods:**

This cross-sectional study was conducted at a tertiary hospital from January to September 2023. Data on total outpatient department (OPD) visits, total inpatient department (IPD) admissions, IPD admissions to the nursery, and neonatal and child mortality were collected. Causes of mortality were categorized based on the provided information. Descriptive statistics were used to analyze the data.

### **Results:**

During the study period at ANCH, there were a total of 120,650 outpatient department (OPD) visits, 10,865 inpatient department (IPD) admissions, and 1,587 nursery admissions. The overall neonatal mortality rate was 1.22% of total IPD admissions and 8.3% for nursery admissions. The child mortality rate also stood at 1.22% of total IPD admissions, with boys representing 60% of the fatalities.

The primary causes of neonatal mortality included early-onset sepsis (43.3%), low birth weight/very low birth weight (33.6%), prematurity (19.4%), late-onset sepsis (16.8%), birth asphyxia (9%), and congenital heart disease (5.3%). For child mortality, the leading causes mirrored those of neonatal mortality, with early-onset sepsis (43.3%), low birth weight/very low birth weight (33.6%), prematurity (19.4%), late-onset sepsis (16.8%), birth asphyxia (9%), and congenital heart disease (5.3%) being the most significant contributors. Notably, 48% of the deaths occurred within the first 24 hours of life.

## **Conclusion:**

This study reveals the significant burden of neonatal and child mortality at a major Afghan hospital, with an under-5 mortality rate over twice the global average. The leading causes - sepsis, prematurity, pneumonia, and diarrheal diseases - reflect persistent gaps in maternal and child healthcare access and quality. Addressing this public health challenge requires a comprehensive, data-driven approach to strengthen the healthcare system, including enhancing referral, improving care capacity, implementing evidence-based interventions, and integrating services. These findings can inform future research and policies to reduce early childhood mortality in Afghanistan.

# **A nosocomial outbreak of Crimean-Congo Haemorrhagic Fever in a tertiary care centre in Pakistan**

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## **Introduction:**

Crimean-Congo Haemorrhagic Fever (CCHF) is a tick-borne viral disease endemic to several regions including Pakistan. This study reports the clinical course and outcomes among healthcare workers affected during a CCHF nosocomial outbreak in Baluchistan, Pakistan.

## **Methods:**

A retrospective cross-sectional study was conducted using hospital records of CCHF patients admitted at a tertiary care centre in Karachi, Pakistan in November 2023. Demographic data, clinical features, laboratory findings, treatment, and outcome data were collected. Data was analysed using SPSS v26.

## **Results:**

Thirteen healthcare workers from Quetta, Baluchistan were admitted following a nosocomial CCHF outbreak. The median age was 30 years, with a male predominance. Most patients were exposed to the virus through an infected patient (n=11). PCR confirmed CCHF in nine patients. Common symptoms included fever and myalgia (n=11), with acute liver injury being the most frequent complication (n=8). Ribavirin was administered to 12 patients, alongside supportive therapies such as blood product transfusions. The case fatality rate was 15.4%, with two patients succumbing to CCHF-related complications. A comparison of biochemical parameters at admission and 48 hours showed a significant unit decline in serum haemoglobin and an increase in total bilirubin levels ( $p < 0.05$ ).

## **Conclusion:**

The outbreak of CCHF among healthcare workers highlights the need for rigorous infection control and training programs for healthcare workers. Surveillance and preventive measures are critical to mitigating future outbreaks and improving patient outcomes.

**Keywords:** Crimean Congo Haemorrhagic Fever; nosocomial outbreak; healthcare workers

## **A KAP Analysis and the Role of Social and Behavior Change Communication in Afghanistan**

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### **Introduction:**

Afghanistan faces a significant mental health crisis exacerbated by decades of conflict and socio-economic challenges. The stigma surrounding mental health issues, limited access to care, and cultural barriers further compound the problem. Social and Behavior Change Communication (SBCC) strategies are critical for addressing these challenges by influencing knowledge, attitudes, and practices (KAP) related to mental health.

### **Objective:**

To identify and address the KAP related gaps in the mental health sector in Afghanistan.

### **Methods:**

This report synthesizes insights from a variety of recent studies, surveys, and news articles to paint a comprehensive picture of Afghanistan's mental health landscape.

### **Results:**

The SBCC approach can indeed be pivotal in changing behaviors and social norms, making it a valuable strategy in the context of Afghanistan's mental health crisis. By influencing attitudes and practices through education and communication, SBCC can help to reduce stigma, improve understanding, and encourage supportive behaviors towards mental health issues. It is essential to involve various stakeholders, including community leaders, healthcare professionals, and the media, to ensure a broad and effective reach for these initiatives. The consequences of this lack of awareness are significant. Mental health issues are often stigmatized, leading to discrimination against those who suffer from such conditions. Attitudes towards mental health in Afghanistan are marked by deep-seated stigma and negative perceptions. Access to mental health services is extremely limited. The consequences of this limited access are far-reaching.

### **Conclusion:**

The KAP analysis highlights the critical role of SBCC in transforming Afghanistan's mental health landscape. Targeted SBCC strategies are essential for raising awareness, reducing stigma, and promoting supportive behaviours towards mental health. By addressing the identified gaps, SBCC initiatives can significantly improve mental health outcomes, particularly for vulnerable populations, and contribute to a more resilient and mentally healthy society in Afghanistan.

## **Miliary Brain and Lung Metastasis from Primary Lung Adenocarcinoma; A Case Report**

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### **Introduction:**

Brain miliary metastasis is extremely rare and rarely reported in literature. As well miliary pattern in lungs due to metastasis are very uncommon and mostly misdiagnosis with miliary tuberculosis (TB).

### **Objective:**

To present the imaging features and pathological appearance of miliary brain and lung metastasis from primary lung adenocarcinoma.

### **Methodology:**

Case report.

### **Result:**

A 42-year-old gentleman presented with complaints of shortness of breath, fever. Chest radiograph revealed diffuse nodular opacities randomly distributed in both lungs associated with enlarged hila-mediastinal lymph nodes diagnosed as pulmonary TB. Treatment for TB was started but symptoms were not recovered and chest computed tomography (CT) was performed subsequently that showed a mass in right infra-hilar region with miliary opacities distributed randomly throughout both lungs and multiple enlarged hilar and mediastinal lymph nodes as well as a large expansile mass lesion in right pedicle of D5 vertebra associated with other multiple bony deposits in the spine, suggestive of right lung infra-hilar neoplastic growth with miliary lung metastasis and skeletal metastatic deposits. Biopsy and histopathology were done from dorsal spine mass and showed infiltrative metastatic adenocarcinoma. One-week later patient developed altered behaviour. Brain MRI with contrast was done for patient. In brain MRI few haemorrhagic lesions and miliary metastasis from primary lung adenocarcinoma are detected. The patient died two months' later.

### **Conclusion:**

We report a case of miliary brain and lung metastasis from a primary lung adenocarcinoma which was initially diagnosed as miliary TB according to chest radiograph in an endemic area of TB.

## **Biology Meets Programming (A new way of drug discovery)**

*Afia Abdullah*

### **Rational and Objective:**

Gene replication algorithms are vital tools for exploring DNA duplication processes. They assess replication efficiency, error rates, origin location and dynamics. These algorithms stimulate errors like mutations, revealing their impact on genetic diversity and disease. They pinpoint replication origins, highlighting associated DNA sequences. Additionally, they model replication fork dynamics and protein interactions, offering insights into process coordination. These tools discover sequence motifs related to replication regulation, unravelling critical regulatory elements. Comparative analysis reveal variation in replication strategies across species or cell types, uncovering evolutionary insights. Gene replication algorithms serve as powerful computational tools for stimulating and modelling DNA replication processes.

### **Methods:**

The replication origin, a crucial region in DNA, hold hidden messages that can be biological insights towards an algorithm for finding replication origin. The asymmetrical analysis of the sequence refers to uneven distribution of nucleotides on the leading and lagging strands during replication. By searching for the sequence motifs help to identify potential clock genes which play a vital role in regulating the timing of replication. A randomised motif search can help to identify these genes by analysing the distribution of nucleotides in each sequence. By uncovering these hidden messages, helps to gain a deeper understanding of the replication process and its regulation in various organism.

### **Result and Conclusion:**

Gene replication algorithms offer valuable insights into DNA replication process. They provide information about replication efficiency, error rates, origin locations and replication dynamics. These algorithms help identify sequence motifs and optimize replication conditions. Moreover, they guide experimental design and contribute to our understanding of DNA replication in various contexts from genetics to evolutionary biology and molecular research.



# **Cost-effectiveness of Maternal Immunization against RSV to Prevent RSV infection among Infants in Pakistan.**

*Imran Usmani, Ashar Malik, Kaniz Farwa Haider, Fyezah Jehan, Imran Nisar*

## **Introduction:**

Respiratory Syncytial Virus (RSV) is a causative agent for childhood lower respiratory infection (LRTI). The majority of RSV cases and related deaths occur in low- and middle-income countries (LMICs); in 2019, these countries accounted for 97% of the total 101,400 deaths among children under five. This high burden necessitates the induction of prevention strategies in LMICs---a newly approved bivalent RSV perfusion F protein-based vaccine is one such option. This study aims to estimate evidence on the cost-effectiveness of the RSV vaccine by comparing available services and delivery platforms for RSV in Pakistan.

## **Method:**

Cost-effectiveness analysis (CEA) will be done by comparing the cost of administration of RSV vaccination from a public sector platform to pregnant women with the hospitalization cost of managing LRTI in children under the age of five in tertiary care hospital settings in Pakistan. We will calculate the incremental cost-effectiveness ratio (ICER) for maternal immunization as either Cost per Disability-adjusted life years (DALYs) averted, and/or Cost per Quality-adjusted life years (QALYs) gained. Data sources will be identified through stakeholder consultation. Methods for cost-effectiveness analysis will be developed using a systematic literature review.

## **Results:**

Formal data collection and analysis have yet to take place.

## **Conclusion**

The ICER will inform policymakers about the cost-effectiveness of adopting and scaling up the RSV vaccination in the immunization schedule. Additionally, policymakers will be informed of the additional resources required, including the budget impact on the public exchequer. The evidence on the cost-effectiveness of the RSV vaccine in Pakistan will guide decisions on introducing the vaccine. If introduced, it will prevent childhood LRTIs and save vital resources from routine management, making a solid economic case for its adoption.

**Keywords:** Respiratory syncytial virus, Lower Respiratory infection, Incremental Cost-effectiveness ratio, Cost-effectiveness analysis, Quality-adjusted life years, Disability-adjusted life years.

## **Evaluation of Kabul university student's attitude and knowledge about antibiotic and its use**

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### **Introduction:**

Public knowledge can be helpful to the rational use of antibiotics. Lack knowledge of people about usage of antibiotics cause, may use this medicine irrationally like, take inadequate dosage, non-flow up of treatment and self-medication. These all may lead to fail a therapeutic procedure in presence of qualified health care system and high financial investments, and reduces patients believes into health care system. Inappropriate and overuse of antibiotic is a serious issue worldwide due to antimicrobial resistance and its dramatically increasing in response to inappropriate antibiotic use.

### **Methods:**

This cross-sectional survey was conducted with the aim of estimating the knowledge and attitude of Kabul University students about antibiotics and its use. 1073 validated self-administered questionnaires were distributed in Kabul university of Kabul Afghanistan. The questionnaire consisted of questions about accessibility, attitude, efficacy and antibiotic resistance, The level of students' knowledge was estimated by counting the correct answers for every individual respondent, while each correct answer was considered as a point.

### **Result and discussion:**

The scores were categorized as poor, medium, and high of the respondents, 81% knew antibiotic, 52.1% answered they get antibiotics according to doctor's prescription, however, 77.2% stops taking antibiotics when they feel well. This bad attitude increases the risk of resistant bacterial strains, show pour knowledge then Pakistan public people. Only 24% of respondents knew that amoxicillin is an antibiotic, 63% had poor scores about antibiotic.

### **Conclusion:**

This study noticed a bad attitude related to antibiotics, with many misconceptions and poor knowledge. Community campaigns are recommended in each university semester to educate students about the indications, efficacy and antibiotics resistance.

**Keywords:** Attitude, Knowledge, Antibiotic, Kabul University

## **A Moderately-developed Accessory Lower limb Successful treatment Case Report**

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### **Introduction:**

Accessory lower limb is the rarest known anomalies of lower limb, the exact mechanism of embryogenesis is still not explored, several hypotheses has been presented in this regard, for example it is the result of a primary mesodermal defect involving the paraxial mesoderm or A famous hypothesis of conjoined twinning has also been proposed in the past. Failure of regression of limb bud of a conjoined twin is thought to account for the accessory lower limb.

### **Case Report:**

An 11-month-old male infant was brought by worries parents to Orthopaedic department with accessory lower limb attached to the buttock and posterior of acetabulum the infant was born with it and it was growing commensurate with the growth of the rest of the infant's body, the infant was 6<sup>th</sup> child of his parents who had nonconsanguineous marriages. All the previous siblings were normal. The parents did not give any history of maternal illness, smoking, medication intake, radiation exposure or any other obvious gestational insult through the course of their pregnancy that yielded the anomalous baby. The mother had not undergone any antenatal screening and hence, the condition was obvious only after natural delivery. The infant had no other associated systemic abnormality. The parents were particularly concerned about the gruesome appearance and difficulty with care and posture of the infants. Clinical examination of the infant revealed moderately developed lower limb arising from the posterior of the buttock and acetabulum attached to the posterior of left lower limb, grossly it was covered with the skin in posterior region of left thigh and leg, contained partial developed foot with great and one adjacent toe. The normal lower limbs were neurologically normal, abdomen, and thorax and urogenital was normal. Plain x-rays show normal osseous of lower limb, the limb had a rudimentary femur, tibia, fibula, rudimentary foot bones, and knee and ankle joints. Accessory lower limb confirmed, informed consent was taken form parent for surgery and taken serial photo from the course of treatment. At the time of surgery, the patient was positioned prone on table. A z-shaped longitudinal skin incision was designed to ensure adequate closure of the resultant defect after limb extirpation. The limb was eschmarked to preserve blood and circulatory physiology of the infant during surgery. Following incision of the skin and subcutaneous tissues, deeper dissection was undertaken in a standard fashion and carried down to the fibro-osseous attachments of the rudimentary bone and the over lying skin was closed with subcutaneous and skin intradermal absorbable suture. The immediate postoperative period was uneventful, and the infant was discharged home and his parents educated for regular follow up.

**Discussion:**

Our patient was male child as for literature research the anomalies of accessory lower limb have female predilection. In our patient accessory lower limb, the attachment was on buttock and posterior acetabulum where various attachment sites of the accessory lower limb have been reported by previous researchers such as lumbosacral region, if the limb buds split little later in the embryonic life, the accessory lower limb attached more distally in the buttock, acetabulum or thigh, if spite early the attachment may be lumbosacral region. as in our patient was moderately developed without spinal dysraphism as researchers classified accessory lower limb in two categories, associated with spinal dysraphism and without spinal dysraphism and subdivided in well developed, moderate developed, mild developed and poor developed accessory lower limb.

**Conclusion:**

The accessory lower limb is a rare case need comprehensive evaluation and surgical plan to prevent possible difficulties during the surgery and after the surgery.

## **Surgical Treatment of Congenital Hallux Varus Deformity**

*Salahuddin Siraj (MS-Ortho)*

### **Introduction:**

The purpose of this study was to report outcomes of congenital hallux varus deformity after surgical treatment.

### **Methods:**

We evaluated one foot of one patient with a congenital hallux varus deformity. He was 8 months old child with hallux varus deformity, longitudinal epiphyseal bracket (LEB) and polydactyly. The mean duration of follow up is one year. Clinical outcomes were assessed according to the criteria of Phelps and Grogan. Surgical procedures included the Farmer procedure, an osteotomy at the first metatarsal or proximal phalanx.

### **Results:**

A correction of the medial deviation of the toe was achieved. The angle between the proximal phalanx and the fifth metatarsal bone decreased from  $66.7^{\circ}$  to  $12.5^{\circ}$  on the 12th post-operative month. The clinical results were excellent.

### **Conclusions:**

Congenital hallux varus was successfully corrected by surgery with overall favourable outcome. Preoperatively, a LEB should be considered as a possible cause of the deformity to prevent recurrent or residual varus after surgery.

**Keywords:** Congenital hallux varus, Longitudinal epiphyseal bracket, Surgical treatment.

## Determination of tartaric acid, phenolic and flavonoid content in *Berberis integerrima* Bunge fruit collected from Badakhshan province, Afghanistan

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### Introduction:

Barberry is one of the important medicinal, food and export plants of Afghanistan. The fruit of this plant contains a large amount of organic acids, phenolic substances, flavonoids and vitamins and has a special place in the traditional medicine of country. Badakhshan province is one of the major barberries producing provinces in Afghanistan.

### Objective:

The purpose of this study is to standardize and determine the amount of tartaric acid, phenolic and flavonoid content in barberry fruit (BBFs22) collected from Badakhshan Province, Afghanistan.

### Methods:

BBFs22 was collected from the sellers of medicinal plants located in Kabul and kept in the freezer until the measurement and evaluation. After identification and pharmacognostic evaluation of BBFs22 the amount of tartaric acid, phenolic and flavonoid content in the fruit, was determined using UV- Vis spectroscopy. All experiments were repeated three times.

### Results:

The studies conducted based on the available sources showed that the desired sample was *Berberis integerrima* Bunge. The results obtained from the pharmacognostic evaluation of the fruit indicated that the BBFs22 has  $7.48 \pm 0.13\%$  moisture,  $9.16 \pm 1.3\%$  foreign matter,  $2.11 \pm 0.05\%$  total ash,  $0.32 \pm 0.05\%$  acid insoluble ash,  $28.15 \pm 0.19\%$  water- soluble extractive content, and  $23.77 \pm 0.97\%$  methanolic extractive value. The result of phytochemistry studies showed that BBFs22 has flavonoids, alkaloids, tannins, phenolic substances, saponin and mucilage as its active ingredients. The methanolic extract of BBFs22 had  $14.06 \pm 0.05$  mg (w/w) of tartaric acid,  $26.43 \pm 1.65$  mg (w/w) of phenolics and  $3.10 \pm 0.04$  mg (w/w) of flavonoids.

### Conclusion:

BBFs22 has shown lower values in terms of numerical norms, however, the results obtained from the pharmacognostic evaluation of fruit are consistent with the standard values available in pharmacopoeias. In addition, although different solvents can be used to determine the amount of phenolics, flavonoids and tartaric acid, the results obtained from this study indicated that methanol is a better solvent than water.

**Keywords:** Barberry, Standardization, Tartaric acid, Phenolics, Flavonoid content

## **The association of perinatal and clinical factors with outcomes in infants with gastroschisis, a retrospective study at NICU-FMIC in 2023**

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### **Introduction:**

Gastroschisis is a congenital defect of the anterior abdominal wall allowing protrusion of the intestines and other abdominal organs out of the abdominal cavity. Prevalence of this condition varies from one to five in 10 000 live births and is increasing in the western countries. Gastroschisis is associated with a significant short-term morbidity, including sepsis and gastrointestinal dysfunction. Infants born with gastroschisis frequently require long hospitalization in the neonatal period and sometimes also thereafter, but the reported survival rate is over 90%.

### **Objective:**

The aim of the present study was to assess the prognostic factors for the outcome and to identify risk factors for mortality and the composite adverse outcome (death and/or short bowel syndrome or hospital stay > 10 days) of gastrochisis.

### **Methods:**

A retrospective study of gastroschisis patients born between 01.01.2019 to 30.12.2023 in FMIC-NICU was undertaken, collecting perinatal, surgical, and clinical data of neonates for uni- and multifactorial modeling analysis from medical records (files of patients).

### **Results:**

Of the 15 infants with gastroschisis, the overall survival rate was 90.9%. In our analysis, independent risk factors for mortality included liver medical injury, pulmonary hypoplasia, relaparotomy for perforation or necrosis, abdominal compartment syndrome, and central line sepsis. Furthermore, a logistic regression analysis identified central line sepsis, abdominal compartment syndrome, complex gastroschisis, and a younger gestational age as independent predictors of the composite adverse outcome.

### **Conclusion:**

The risk of death is increased in newborns with gastroschisis who have liver damage, pulmonary hypoplasia, abdominal compartment syndrome, relaparotomy for perforation or necrosis, or central line-associated sepsis. Special care should be taken to minimize the risk of central line sepsis in the clinical setting.