Abstracts

13th FMIC Annual International Scientific Conference & 13th Quality Convention

"Innovations in Healthcare: Accessibility, Quality and Research"

November 16, 2023

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Acknowledgement

The organizing committee of FMIC's 13th Annual International Scientific Conference and 13th Quality Convention extends its deep appreciation to 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. These contributions were instrumental in the event's resounding success.

Your collaboration was not only essential to the conference but also to various critical programs. We eagerly anticipate strengthening our partnerships to further advance research, knowledge dissemination, and healthcare, both in Afghanistan and globally.

Thank you for your invaluable support and dedication to improving healthcare in Afghanistan.

Message from Chief Executive Officer

Dear Participants,

I extend a warm welcome on behalf of the FMIC Board and Management to the 13th Annual International Scientific Conference and 13th Quality Convention at FMIC.

FMIC is the result of a unique four-party international partnership, bringing together the governments of Afghanistan and France, the Aga Khan Development Network, and the French humanitarian organization, La Chaîne de l'Espoir. This partnership is FMIC's defining characteristic and a source of great strength. In these challenging times, FMIC's partners and management remain committed to serving the people of Afghanistan. We will continue to pursue our vision and mission with the support of partners, international donors, and well-wishers. Hosting this event during this difficult period is a crucial step toward fulfilling our ongoing mission of "capacity building." We encourage all participants, whether attending in person or virtually, to make the most of this opportunity.

FMIC is deeply invested in the future of Afghanistan's healthcare system, providing medical professionals with international-standard training and professional development opportunities. The Postgraduate Medical Education Programme (PGME) is a flagship initiative, offering specialized training in nine different specialties, five of which are rarely found elsewhere in the country. Since 2011, FMIC has consistently sponsored an international scientific conference and a quality and patient safety convention, both showcasing the critical thinking abilities of Afghan health professionals.

To date, FMIC has organized twelve international conferences on various emerging themes, reflecting our commitment to advancing healthcare. This year, we present the 13th Annual International Scientific Conference and 13th Quality Convention with the theme "Innovations in Healthcare: Accessibility, Quality, and Research." The sub-themes encompass various crucial aspects, including Quality and Patient Safety, Nutrition and Food Safety, Reproductive, Maternal, Newborn, and Child Health, Environmental and Occupational Health, Mental Health, Communicable Diseases, Non-Communicable Diseases, Nursing, Midwifery, Leadership, Governance, Digital Health, and Health Education and Promotion.

FMIC has consistently advocated for quality healthcare services and has garnered recognition from national and international organizations for setting high standards in tertiary healthcare. We are pleased to mention that in November 2022, FMIC achieved SafeCare certification with a remarkable 99% success rate, a testament to our unwavering commitment to quality, even in challenging circumstances. We are determined to continue improving the healthcare landscape in Afghanistan in the years ahead. Moreover, FMIC has recently achieved a significant milestone by standing amongst the finalists in two distinguished categories: the Grand Hospital Award and the Excellence Award for Corporate Social Responsibility. This recognition comes as part of a global competition organized by the International Hospital Federation (IHF), where they received a staggering 500 submissions from 43 different countries. This remarkable accomplishment fills the FMIC family with pride, as it underscores our ability to stand out on the global stage, even in the face of numerous challenges.

Lastly, we recognize the importance of environmental conservation and pledge to take concrete actions for its protection. We seek the support and commitment of our partners and all stakeholders in this endeavor.

Once again, welcome to the 13th FMIC Annual International Scientific Conference and Quality Convention. We wish you an enriching and fulfilling experience.

Best wishes,

Aziz Ahmad Jan
Chief Executive Officer, FMIC

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Pediatric Medicine Faculty, Ataturk Hospital

Conference Programme

Theme	Presentations
Session 1: Public Health and Communicable Diseases	How Afghanistan is Tackling Infection Prevention and Control: An In-Depth Evaluation of Practices and Strategies
	Prevalence of Common Infectious Diseases among Pediatric Patients Admitted to Maiwand Teaching Hospital, Kabul, Afghanistan.
	The Effectiveness of Elaj Asan, a Mobile Health Application, in Urban and Rural Regions of Pakistan: A mixed-method study
	Knowledge and Infection Control Practices Regarding Healthcare Associated Infection among Healthcare Workers
	Risk Factors of Crimean-Congo Hemorrhagic Fever (CCHF) Outbreak in a private health facility of Kandahar province, Afghanistan, 2023: A Case-Control Study
	Knowledge, Attitude, and Practice of COVID-19 Vaccines among Healthcare Workers in three Provinces of Afghanistan, 2022
	Outbreak Investigation of Acute Watery Diarrhea (AWD) with dehydration in Parwan Province, Afghanistan, 2022
	Immunization Coverage among Under-Two Years Children in Kabul City Slums, 2022
	Comparison of routine immunization coverages reported by Multiple Indicator Cluster Survey (MICS-2022/2023) and Administration data in Afghanistan
	COVID-19 Incidence among Vaccinated and Non-vaccinated Populations in North Region of Afghanistan, 2022
	Descriptive Epidemiology of Acute Watery Diarrhea Outbreak in Sar-e-Pul Province, Afghanistan, 2022
	Descriptive study of COVID-19 vaccination coverage in Afghanistan, 2021-2023
	Seroprevalence of Hepatitis B, Hepatitis C and HIV among Male Injecting Drug Users (IDUs) in Phoenix addicts' hospital Kabul, 2022
	Evaluation of Influenza Surveillance System in Afghanistan, 2022
	Access to and use of Long-Lasting Insecticide Net (LLIN) and factors associated with non-use among communities in three malaria endemic provinces of Afghanistan, 2022
	Moving from CR technology to DR technology: The Status and Prospects of Digital Detector Technology
Session 2: Reproductive, Maternal, Newborn and Child Health and Nursing	Improve patient experience through reduce pre-operative/procedure fasting time at a tertiary care hospital in Kabul, Afghanistan
	Application of partograph in the evaluation and management of obstetric in-labor patients at FMIC, Kabul, Afghanistan
	Dental Problems among Children: a Screening Campaign Conducted by FMIC
	General health status among women in Kabul, Afghanistan.
	Neonatal mortality: A retrospective data analysis from a tertiary care hospital in Kabul, Afghanistan
	Enhance Staff Knowledge and Skills on Basic Life Support to Save Life: Knowledge Retention Survey in a Tertiary Care Hospital in Kabul – Afghanistan
	Factors associated with respiratory distress syndrome (RDS) in preterm neonates admitted at FMIC in Kabul city: A retrospective cross-sectional study
Session 3: Quality and Patient Safety	Journey of Medication Reconciliation Compliance in a Lower Middle-Income Country
	A study of the complaints lodged in Afghanistan Medical Council from Jan/2019 to Jan/2021 and its Relation with Hospital Management
	Improve OR efficiency
	Efficiency in the Out Patient Department to Improve Customer Satisfaction
	Improve customer satisfaction through bringing performance improvements at the HIMS department of FMIC

	Nurse Compliance to Nursing Care Documentation at a Tertiary Care Hospital, in Kabul
	Improve Medical Equipment Safety and Utilization at a Tertiary Care Hospital in Kabul
	Reasons for delay in the reporting of panic laboratory results and the strategies to this delay.

Session 4: Non-communicable Disease	Sclerotherapy for the management of venous malformations: Experience from a single institution in Afghanistan
	Effectiveness of Food Safety Law in Afghanistan
	Upper gastro-intestinal bleeding and severe anemia due to leech infestation in the middle part of esophagus in a one-year-old baby
	Proportion and Histopathological Features of Cutaneous Malignant Tumors Diagnosed in a Tertiary Care Center, Kabul, Afghanistan
	Factors associated with Blood Glucose levels among Afghan people aged 18-69 years old: Evidence from a National Survey
	Sclerosant therapy for neck lymphangioma: an excellent aesthetic outcome
	Leg and foot compartment syndrome caused due to intravenous contrast extravasation Case Report
	Evaluating Postoperative Medical Care: Assessing Renal Failure Post CABG
	Characteristics of continuous v/s partial interrupted suturing technique in VSD closure
	Spectrum of findings after internal jugular vein catheterization in pediatric patients undergoing cardiac surgery in FMIC, Kabul Afghanistan
	Successful surgical management of bicornuate uterus in an adolescent girl: A case report
	Primary cervical hydatid cyst: A rare case report
	Eye Problems among School Children: A Screening Campaign Conducted by FMIC
	Minimal access awake craniotomy for drainage of cerebral abscess in a patient with severe complex cardiac defects in resource-limited country: A case report
	MRI findings in adult patients presenting with shoulder pain in a tertiary care hospital, Kabul, Afghanistan- A descriptive cross-sectional study
	Relationship of age and gender with cytopathological findings of thyroid nodules diagnosed by FNAC: a retrospective study
	Prevalence of Hypertensive Crisis and It is Risk Factors in Hypertensive Patients in One Medical Center in Kabul Afghanistan: A Cross-Sectional Study
	Glucose enhanced the MTX chemotherapy resistance through CXCR4 expression in acute lymphoblastic leukemia

Oral Presentations

Scientific Sessions

Abstracts

Session 1

Public Health and Communicable Diseases

How Afghanistan is Tackling Infection Prevention and Control: An In-Depth Evaluation of Practices and Strategies

Mohammad Naeem Lakanwall, Preet, Safiaullah Nadeeb, Rozina Roshan, Faisal, Karima

Objective:
The aim of this study is to assess the implementation of key Infection Prevention and Control (IPC) practices in 15 governmental hospitals in Afghanistan to assess the strengths and weaknesses of their IPC programs.

Methods:
A cross-sectional assessment was conducted between July 2021 and June 2022 at 15 governmental hospitals in Afghanistan including 11 tertiary hospitals from Kabul, 3 regional hospitals from Herat, Kandahar, and Nangarhar respectively, and 1 provincial hospital from Laghaman which is the only secondary healthcare facility in this assessment. Two infection prevention and control (IPC) experts from the Ministry of Public Health (MoPH), Kabul Afghanistan conducted hospital assessments. The World Health Organization (WHO) Infection Prevention and Control Assessment Framework (IPCAF) tool was used to assess the strengths and weaknesses of all healthcare facilities regarding IPC.

Results:
We evaluated 15 hospitals in Afghanistan, of which 14 were tertiary care and 1 was a secondary care hospital. A few of the hospitals are managed by non-governmental organizations (NGOs) but the majority were run by government organizations. The number of beds in the hospitals varied, with 650 being the greatest and 68 being the lowest. The hospitals represent a cumulative 4363 beds.
Of the 15 hospitals evaluated, most achieved a basic IPC level with only 2 hospitals achieving an intermediate level of IPC standards. None of the hospitals achieved advanced level. The overall hospital compliance scores ranged from 32 percent to 58 percent, with 40 percent as the average.

Conclusion:
Only 2 hospitals out of the 15 evaluated hospitals attained the intermediate level of IPC criteria, with the majority obtaining a basic level. None of the hospitals reached an advanced level. This highlights that the current standard of IPC programs in Afghanistan is inadequate, and a significant improvement is required.

Prevalence of Common Infectious Diseases among Pediatric Patients Admitted to Maiwand Teaching Hospital, Kabul, Afghanistan.

Zaker Hussain Hussain Pour, Abdul Samad Salimi

Introduction

Pediatric patients are the most frequent population visiting the different hospital department with various illnesses round the year. Infections are among the most common reason for illness in this population; the incidence of infectious diseases in pediatric patients is a major public health concern, particularly in hospital settings. Identifying the prevalence of common infectious diseases in this population is important for informing prevention and treatment strategies.

Methods:

This cross-sectional study aimed to determine the prevalence of common infectious diseases among pediatric patients admitted to Maiwand Teaching Hospital in Kabul, Afghanistan. The study, conducted from March 2022 to August 2022, included 553 patients who were clinically diagnosed with infectious diseases in the pediatric department.

Results:

Of the participants, 62.40% were male and 37.60% were female. The majority of patients fell within the 13-60 months' age group (36.5%), followed by the 6-12 months' age group (24.6%), the under six months' age group (23.5%), the 61-120 months' age group (10.5%), and the over 120 months' age group (4.9%). The most common infectious diseases identified were diarrhea (56.41%), pneumonia (21.7%), measles (21%), malaria (0.5%), and tuberculosis (0.4%). Among the participants, 77.6% were from urban areas, while 22.4% were from rural areas. Treatment outcomes indicated that 77.40% of patients were discharged, 17.40% left against medical advice, 2.90% died, and 2.40% were referred.

Conclusion:

The study emphasizes the need to increase awareness among parents of pediatric patients regarding infectious diseases, with a particular focus on diarrhea and pneumonia, which were found to be the most prevalent conditions.

Keywords: infectious diseases, Common, Children, Infants, Prevalence.

The Effectiveness of Elaj Asan, a Mobile Health Application, in Urban and Rural Regions of Pakistan: A mixed-method study

Ms. Saira Samnani, Ms. Aiman Rashid, Dr. Kainat Faheem Abbasi, Dr. Amna Khan, Mr. Abdul Muqeet, Dr. Saleem Sayani

Background:
Teleconsultation reduces the need for travel to medical appointments, leading to a significant decrease in greenhouse gas emissions, lower energy consumption, reduced traffic congestion, conservation of resources, and improved access to medical consultations. The Elaj Asan mobile health (mHealth) application was developed that allow patients to schedule appointments with doctors at the Aga Khan Health Services, Pakistan (AKHS, P) facilities in Gilgit, Chitral, and Karachi, enabling real-time online consultations, secure medical record sharing, and digital payments for services. The study aims to assess the effectiveness of a telemedicine mHealth application in reducing health facility burden by facilitating non-urgent, remote care for isolated communities, elderly patients, and women and girls who face challenges in accessing health services.

Methods:
The study used a mixed-method approach. The study population includes men and women aged 18 years or older from both urban and rural settlements in Pakistan. The data collection was done through convenience-based sampling between April 2021 and July 2022. Descriptive analysis provided mean scores and percentages, while t-tests and chi-squared tests were used to analyze quantitative data.

Results:
A total of 388 application users were surveyed from both urban and rural areas of Pakistan (Female= 231; Male= 157), and qualitative feedback was obtained regarding their suggestions for improving the user experience. Our findings showed that 95% of the people were satisfied with the application's features in providing remote care and 92% of the people felt the application was easy to use. However, a statistically significant difference ($p<0.05$) emerged between urban and rural users.

Conclusion:
The Elaj Asan application was found to be user-friendly and a step to strengthen the healthcare system of lower-middle-income countries (LMICs). The findings of the study will not only contribute towards filling the digital healthcare literature gap in Pakistan and other LMICs but also help in drawing policy recommendations for future application of mHealth initiatives.

Keywords: Digital health, mHealth, teleconsultation, healthcare solutions

Knowledge and Infection Control Practices Regarding Healthcare Associated Infection among Healthcare Workers

Ikramullah, Gulshan Zaib

Objective:
To determine the knowledge and practices regarding healthcare-associated infection among healthcare workers and to make recommendations based on results to prevent healthcare-associated infection.

Methodology:
A descriptive correctional study was conducted in Burn and Trauma Center Peshawar, Pakistan. Data were collected from 162 healthcare workers through a questionnaire. Data was collected through a universal sampling technique. This study was permitted by the Ethical Review Board of Hayatabad Medical Complex Peshawar, Pakistan. This study was also granted by the Institute of Management Sciences (IM Sciences) Institutional Ethical Review Board (IRB) in Peshawar Pakistan. Knowledge and inflectional control practices regarding healthcare-associated infection were determined through frequency and percentage methods. To calculate the association between knowledge and profession, gender and knowledge, and profession and knowledge Chi-Square test was applied. Data were analyzed through SPSS 26 version.

Results:
The age of the participants was divided into three groups from 20-30 years 117 participants, 31-40 39 participants, and 41-50 are 6 participants. The majority of the participants are Female 101(62.3%) and 61 males (37.7%). The majority are Nurses 83(51.2%) Doctors 39(24.1%) Paramedics 40(24.7%). The knowledge of doctors was good regarding healthcare-associated infection as compared to Nurses and Paramedics, but the practices of overall healthcare workers were good. The results of the study show that Doctors have good knowledge compared to Nurses, and Nurses have good knowledge compared to Paramedics regarding HealthCare-associated infection.

Conclusion:
The finding of the study showed that doctors have good knowledge than Nurses and Paramedics. The practices of overall healthcare workers were good.

Keywords: Healthcare-associated infection, Healthcare worker, Knowledge, Practices

Risk Factors of Crimean-Congo Hemorrhagic Fever (CCHF) Outbreak in a private health facility of Kandahar province, Afghanistan, 2023: A Case-Control Study

Shoaib Naeemi, Mohammad Ginah Ibrahimi, Khwaja Mir Islam Saeed, Mir Salamuddin Hakim

Background:
Since 2008 Afghanistan recorded 1632 Congo Hemorrhagic Fever (CCHF) cases. West region reported the highest number of CCHF cases however it shifted during 2023 to southern region particularly in Kandahar province.

Objectives:
This case-control study aimed to identify the risk factors associated with CCHF outbreak in a private hospital of Kandahar province.

Methods:
A case-control study was conducted during CCHF outbreak in a private hospital during April-May, 2023 in Kandahar province with 1:3 ratio of case to control. Structured questionnaire containing demographic, clinical features and exposure history was used as study tool and cases were confirmed for CCHF infection using PCR and ELISA techniques. Data were analyzed in Epi Info v7.2.5 and STATA MP17. Alpha level of 0.05 with 95% confidence was determined while Penalized Logistic Regression (PLR) and firth correction were used for sparse data.

Results:
Totally, 14 cases and 42 controls were included in this study with mean age of 24±6.25 and 29±11.26 respectively. All of the cases and two-third of controls were health workers while 9(64%) of cases and 39(88%) of controls were male. Multivariate analysis of the exposures revealed that contact with CCHF suspected individuals without having Personal Protection Equipment(PPE) (OR 95%: 2.2-9.4, P=0.001) and having contact with medical equipment such as needles, syringes and gauze pads used for management of CCHF case without PPE (OR 95%: 2.18-46.19, P=0.001) were significantly associated with CCHF infection risk.

Conclusion:
Findings of this study reveal that the CCHF outbreak in this private hospital was related to lack of considering preventive measures by health workers. It's recommended for private healthcare facilities to ensure the availability and utilization of PPE and enforcement of infection control practices. Additionally, undertaking health education programs for health workers regarding transmission routes and preventive measures of CCHF is recommended as well.

Keywords: Crimean-Congo Hemorrhagic Fever, Risk Factors, Case-Control, Penalized Logistic Regression, Afghanistan

Knowledge, Attitude, and Practice of COVID-19 Vaccines among Healthcare Workers in three Provinces of Afghanistan, 2022

Rahmatullah Wafa, Khwaja Mir Islam Saeed, Mir Salamuddin Hakim, Shoaib Naeemi, Mohammad Hashim Zadran, Zahidullah Amiri, Hamidullah Matin, Khan Mohammad Mangal

Background:
Major endeavour has been made to control the COVID-19 pandemic including mass vaccination. Afghanistan began COVID-19 vaccination in February 2021 and healthcare workers (HCWs) were the first to be vaccinated. Acceptance of COVID-19 vaccines among HCWs depends on significant factors including knowledge, attitude, and practice.

Objective:
This study aims to assess the knowledge, attitude, and practice of HCWs towards COVID-19 vaccines in three provinces of Afghanistan.

Methods:
A facility based cross-sectional survey was conducted among HCWs in Kabul, Khost, and Paktia provinces during Nov-Dec 2022. Data on knowledge, attitude, practice, rumors, and barriers regarding COVID-19 vaccines were collected through a structured questionnaire. Descriptive analysis and chi-square tests were used to analyse the data using Epi Info version 7.2.1.1 and MS. Excel.

Results:
In this survey, 891 (96%) HCWs responded the questionnaires among whom 527 (59%) were males and 364 (41%) were females with a mean age of 32.87± 9.63 SD. A total of 850 (95.6%) knew about COVID-19 vaccines and 756 (84.85%) stated awareness about the side effects. 507 (56.9%), 629 (70.59%), and 700 (78.56%) HCWs agreed on safety, effectiveness, and trustworthiness of vaccines. Among all respondents, 767 (86.08%) have been vaccinated against COVID-19 of whom 410 (46.02%) had received more than two doses. Almost, 491 (55.11%) HCWs expressed that rumors are the main barrier for COVID-19 vaccines uptake; and main reason for refusal was reported to be low awareness. Knowledge of COVID-19 vaccines and no fear of the side effects were significantly associated with vaccine uptake (OR=2.72 [1.35-5.49]), (OR=1.70 [1.15-2.50]).

Conclusion:
It seems there is high levels of knowledge, positive attitude and good practices regarding COVID-19 vaccines among HCWs. Willingness to take COVID-19 vaccines can be enhanced through awareness raising activities and demand generation among HCWs.

Keywords: COVID-19 vaccine, HCWs, Knowledge, Attitude, Practice, Afghanistan.

Outbreak Investigation of Acute Watery Diarrhea (AWD) with dehydration in Parwan Province, Afghanistan, 2022

Momina Rahimi, Mir Islam Saeed, Shoaib Naeemi, Mir Salamuddin Hakim, Bahara Rasoly

Background:
On July, 2022, an outbreak of AWD was reported from Charikar district of Parwan province.

Objective:
This study aims to investigate descriptive characteristics and identifying potential sources of this outbreak.

Methods:
This outbreak investigation uses case definition of National Diseases Surveillance and Response during 17-31 of July, 2022 in Charikar District of Parwan. Stool and drinking water specimen were collected in Cary Blair and tested for Cholera using Rapid Diagnostic Test (RDT) and microbiologic culture. Data management and analysis were done by MS Excel 2016 and Epi Info v7.2.1.

Results:
Totally,148 cases of AWD were investigated in this study with mean age of 31 years and no deaths were reported with 144(97%) in over five age category. Based on gender, 65(46%) of cases were female. Peak of cases were recorded during 23rd-24th of July with 24 cases totally. Central Charikar recorded 116(78%) followed by Jabulsaraj 9(6%) and Bagram 7(4%). Upon map spotting, it was revealed that cases were distributed around lake water which was used as main drinking water source for bathing, watering livestock and washing clothes as well. Moreover, 21 stool samples were tested and 5(23%) became positive for Vibrio cholerae O4 Ogawa and 01 Hikojima serotype with two of the water samples found to be unsatisfactory for drinking. Also, 128(86%) of the cases had vomiting followed by fever 59(40%) and shock 11(7.4%).

Conclusion:
Findings of this investigation revealed that majority of cases were among over-five years and the outbreak is confirmed for cholera Ogawa and Hikojima subtypes. Vomiting and fever were the two most predominant clinical features. Emergence of this outbreak perhaps could be the result of using lake water for daily consumption based on laboratory results of drinking water samples. Timely chlorination of water sources and considering preventive measures in summer season would help to prevent future outbreaks.
Keywords: AWD, Cholera, Ogawa, Hikojima, Parwan, Afghanistan

Immunization Coverage among Under-Two Years Children in Kabul City Slums, 2022

Ahmad Pohin Tokhi, Khwaja Mir Islam Saeed, Mir Salamuddin Hakim, Shoaib Naeemi, Samad Ali Shah, Nasibullah Noor, Faridullah Safi, Ehsanullah Halimi

Background:
Although vaccination coverage has increased globally, low immunization coverage is still a public health challenge and vaccine-preventable diseases account for one-fourth of all deaths among children. In Afghanistan, efforts on immunization have been started since 1974 with improvements in recent decades. Yet, immunization coverage is not consistent and differs on inter-provincial and intra-provincial bases.

Objective:
To identify immunization coverage among under two years' children in Kabul city slums.

Methods:
This cross-sectional survey was conducted in 79 slums of 12 districts in Kabul city. Data collected during November to December 2022 on socio-demographic characteristics of caregivers, immunization history, reasons for no vaccination and knowledge of caregivers. The sample size for this study was estimated to be 606 caregivers or household with an under-two-year child. Data cleaned, entered, and analysed in Excel and Epi Info V7.2.1.

Results:
We surveyed a total of 606 caregivers among whom 452 (74.59%) were males and 154 (25.41%) were females. Totally, 444 (73.27%) of children aged 0 – 11 months and 391 (64.52%) children aged 12 – 23 months were vaccinated. Vaccination card possession reported by 405 (66.83%) of caregivers. Fully Immunized Coverage was 51.23%, rate of no/zero immunization among children aged 0-23 months was 26.73%, Penta3 dropout rate was 30.4% and measles1 dropout rate was reported 51.1%.

Conclusion:
The coverage of all antigens was very low compared to the NEPI expected rate, dropouts of Penta3 and Measles-1 were higher than the threshold. Caregivers' literacy was very low, and many families didn't have knowledge of immunization. Immunization coverage needs to be improved through communication, demand generation and provision of mobile vaccination teams in slums.
Keywords: Immunization, Coverage, Kabul, Under-two, Slums.

Comparison of routine immunization coverages reported by Multiple Indicator Cluster Survey (MICS-2022/2023) and Administration data in Afghanistan

Abdul Shakour Karimi, Khwaja Mir Islam Saeed, Hafiz Rasooly

Background:
Multiple Indicator Cluster Survey was conducted in 2022,2023 in Afghanistan to know the situation of children, adolescents, women and COVID-19. There is a need to know the discrepancies of data sources after political and economic shocks in the country.

Objective:
This study aims to explore the variations between the survey and administration coverages reported by health facilities at the country level.

Method and Material:
We conducted a retrospective descriptive study using existed data in the DHIS2 database at the country level and the MICS survey report. DHIS2 is used to aggregate statistical data collection and analysis of the national immunization program in Afghanistan. We performed analysis to identify the coverage of administration and compare with MICS survey immunization coverage conducted in 2023. We used Microsoft Excel 2013 for analysis and calculated proportions, percentages mean, and other descriptive measures for routine immunization antigen coverages.

Results:
The MICS survey reported basic and full immunization coverages among under 2 years of children 36.6% and 16.2%, while the administration data indicates 86.45% and 71.60% respectively. Similarly, there was a remarkable gender disparity in the immunization coverage reported by MICS (37.9% boys and 35.3% girls) and administration data (51.62% boys and 48.37% girls). Also, by antigens-wise BCG, OPV3, Penta3, Measles-1, and Measles-2, 64.7%, 58.9%, 51.3%, 51.2%, and 36.8% respectively reported by MICS and 97%,85.8%, 84%, 79% and 60% respectively reported by administration. Afghanistan Household Survey (AHS) 2018 reported full immunization coverage of 61% while MICS reported 16.2%. Measles coverage based on survey and administration data is very low, particularly in rural areas.

Conclusion:
There has been a difference between survey and administration data. Low measles coverage will lead to outbreaks. There is a need to improve awareness and strengthen routine immunization coverage as well as launching vaccination campaigns.

Keywords: MICS survey, Immunization, vaccine, Afghanistan,

COVID-19 Incidence among Vaccinated and Non-Vaccinated Populations in North Region of Afghanistan, 2022

Sayed Shuja Murtazawi, Khwaja Mir Islam Saeed, Mir Salamuddin Hakim, Shoaib Naeemi, M. Haroon Sadri, Farhad Niazi, Khal Mohammad Bahram, Payenda Mohammad Poya

Background:
There are still COVID-19 positive cases globally, including Afghanistan. Mass immunization has proven to be an effective strategy for its prevention. As Afghanistan launched COVID-19 vaccination in Feb 2021, there is a need to know the incidence of COVID-19 among vaccinated and non-vaccinated populations for expanding immunization activities and public health interventions.

Objective:
To determine the incidence of COVID-19 among vaccinated and non-vaccinated population in north region of Afghanistan.

Methods:
A hospital based cross-sectional study was conducted in Balkh, Samangan, Jawzjan, Faryab and Sarepul provinces during Nov-Dec, 2022. Totally, 427 patients who visited provincial and COVID-19 hospitals in the target provinces served as sample size for the study. Participants were interviewed for socio-demographic characteristics, COVID-19 history, current signs and symptoms, and vaccination history through a structured questionnaire and a nasopharyngeal sample for Polymerase Chain Reaction (PCR) was also collected. Descriptive analysis and Chi-Square tests were performed using M.S Excel and Epi Info V 7.2.3.

Results:
Out of 427 participants 332 (77.75%) were males with an age range of 18-85 years. Almost 359 (84.7%) participants had never been tested to COVID-19. The most common signs and symptoms were fever (94.85%), headache and sore throat (93.91%), and cough (92.74%). A total of 250 (58.55%) participants had received COVID-19 vaccines of whom 18 (7.20%) tested positive for COVID-19. On the other hand, 177 (41.45%) participants had not been vaccinated against COVID-19 and 24 (13.56%) of them tested positive. We found a significant association between vaccination status and PCR positivity (OR=2.02 [1.06-3.85]) among study participants. Hospitalization was less in vaccinated but not significant.

Conclusion:
The incidence of COVID-19 was higher among non-vaccinated population than the vaccinated. Raising awareness should be expanded and strengthened on COVID-19 preventive measures and demand generation for the vaccines.

Key words: COVID-19**,** Incidence, vaccinated, non-vaccinated, Afghanistan.

Descriptive Epidemiology of Acute Watery Diarrhea Outbreak in Sar-e-Pul Province, Afghanistan, 2022

Mohammad Haroon Sadri, Khwaja Mir Islam Saeed, Shoaib Naeemi, Mir Salamuddin Hakim

Background:
Afghanistan recorded 281,579 cases of Acute Watery Diarrhea (AWD) during 2022 and Sar-e-Pul province, located in Northern region is no excepted. Its epidemiological description is needed for suitable actions.

Objective:
This study aims to provide a descriptive epidemiological of AWD outbreak in Sar-e-Pul province of Afghanistan during the year 2022.

Methods:
A retrospective analysis was conducted on recorded AWD cases in Sar-e-Pul province during August 1-15, 2022. Data on demographic characteristics, clinical symptoms, treatment received, water source, and culture results were collected through structured line list and analyzed using Epi Info v7.2.5.

Results:
A total of 1023 AWD cases were recorded during an outbreak. The median age of cases was 8 years, with a range of 69 years. Totally, 586(57%) cases were males. Among them, 601(58%) were from Kohistanat, while 422(42%) originated from Sarepul. The most common clinical manifestations were severe dehydration (90%), sunken eyes (89%), very low skin turgor (88.5%), vomiting (88%) and fever (86%). Intravenous (IV) fluid administration was provided to 916(89%) cases. Moreover, 923(90%) cases received antimicrobial agents. All cases reported unimproved toilet facilities and river water was the primary source of drinking water. The peak number of cases occurred on August 3rd, with 228 reported cases. Cholera culture results were positive in 21(2%) cases. The study reported a total of five deaths due to AWD(CFR=0.49%).

Conclusion:
The findings reveal a significant burden of AWD in Sar-e-Pul province, Afghanistan in 2022, affecting both males and females across different age groups. The high prevalent cases along with severe dehydration, and positive cholera culture results highlight the urgent need for improved water sanitation and hygiene practices as well as health education in the region.

Keywords: Cholera, Acute Watery Diarrhea, Epidemiology, Sar-e-Pul, Afghanistan

Descriptive study of COVID-19 vaccination coverage in Afghanistan, 2021-2023

Samsor Rahat, Khwaja Mir Islam Saeed, Mir Salamuddin Hakim, Shoaib Naeemi

Background:
In response to COVID-19 pandemic, immunization was undertaken as a golden choice for virus control. With support of international donors, Afghanistan started the administration of COVID-19 vaccines for eleven high-risk target groups in February-2021. The description of situation regarding vaccination is essential for program planners.

Objective:
This study aims to provide a description of COVID-19 vaccination coverage in Afghanistan.

Methods:
A descriptive study was conducted to analyze the coverage data from Feb-2021 to Mar-2023 from the District Health Information System-2(DHIS2) at the national level in the Ministry of Public Health. The immunization coverage at the provincial level and gender-based data are analyzed by using both Epi Info v.7 and Ms. Excel-2019.

Results:
A total of 15,835,080 doses of the COVID-19 vaccine were administrated as of March-2023. Of which 33% of the total population was fully vaccinated and 34% had received at least one dose of vaccine. Kabul in the central-region with 15%, and Herat in the western-region with 10% were the provinces with the highest coverage. Totally 7,759,189(49%) of males and 8,075,891(51%) of females received the COVID-19 vaccines from 2021 to 2023. The highest coverage was reported in the elderly group (18-50 years) which was 10,715,050 doses and coverage for people over the age of 50 years old was 2,368,236 doses. Of all administered doses, 976,229(6%) were Covishield, 1,384,640(9%) were Sinopharm, 427,856(3%) were COVAXIN and 13,046,355(82%) were Janssen-Janssen vaccines. Vaccine coverage differed among target/at-risk categories.

Conclusion:
Vaccine coverage for at least one high-risk group (older than 50-years) is lower than expected with a higher interest in a one-dose regimen vaccine. The low coverage shows low demand for vaccine uptake. Although the results are not inclusive, interventions to improve public awareness about COVID-19 and its vaccines are needed. Furthermore, advocacy for full vaccination is required.
Keywords: Covid-19, Vaccine, Coverage, Immunization

Seroprevalence of Hepatitis B, Hepatitis C and HIV among Male Injecting Drug Users (IDUs) in Phoenix addicts' hospital Kabul, 2022

Mohammad Haneef Hashimi, Khawaja Mir Islam Saeed, Mir Salamuddin Hakim, Shoaib Naeemi, Sayed Amrullah Sayedzai, Hizbullah Jalil, Dilawar Khan Noorzai, Sharif Ahmad Habib Ahmadzai

Background:
There are over 13 million Injecting Drug Users (IDUs) globally among whom HBV, HCV, and HIV have led to higher morbidity and mortality. Different prevalence rates of HBV, HCV and HIV including shared risk behaviors have been reported among IDUs in Afghanistan.

Objective:
To determine the seroprevalence of HBV, HCV, and HIV among IDUs in Phoenix addicts` hospital in Kabul city.

Methods:
A cross-sectional study was conducted among 397 IDUs in Phoenix addicts' treatment hospital in Kabul city. Data was collected using a structured questionnaire on sociodemographic, history of addiction, risk factors and knowledge of HBV, HCV, and HIV during Dec 2022. In addition, a blood sample was extracted on site, transferred to the Central Public Health Laboratories, and tested for HBV, HCV, and HIV. Data was managed and analyzed in Epi Info 7.2.1. and M.S Excel.

Results:
All study participants 397 (100%) were male IDUs. The mean age of 32.7±10.03 years with range of 18-30 years and one-third 129 (32.25%) resident of Kabul city. The Seroprevalence of HBV, HCV and HIV was 15 (3.79%), 11 (2.77%), and 2 (0.50%) respectively. Generally, 162 (41%) IDUs were injecting drugs >3 times a day, 80 (20%) have had blood transfusion, 30 (7.56%) have had a sexual partner other than their wife, 74 (18.64%) have used shared needles and 66 (16.58) had used shared blades for shaving their body hair. Knowledge of HBV, HCV and HIV was reported by 226 (57%), 206 (52%) and 180 (45.45%) of IDUs.

Conclusion:
Seroprevalence of HBV, HCV and HIV were low; however, risk behaviors were reported to be more prevalent in this study. Multi-sectorial cooperation and coordination to lower access to and consumption of narcotics and interventions for early detection and treatment of infected IDUs are required to address this challenge.
Key words: Seroprevalence, HBV, HCV, HIV, IDUs, Kabul.

Evaluation of Influenza Surveillance System in Afghanistan, 2022

Momina Rahimi, Khwaja Mir Islam Saeed, Shoaib Naeemi, Mir Salamuddin Hakim, Asadullah Khan Safi, Sadr Uddin Ezzam, Amr Uddin Ziakhalid, Maiwand Faizi, Lema Rassol, Faridullah Safi

Background:
There are nine sentinel sites of influenza surveillance system in Afghanistan. Since establishment in 2007, no formal and published evaluation of this system is available.

Objective:
This study aims to evaluate the influenza surveillance system's qualitative and quantitative attributes and to identify gaps and areas of improvement.

Methods:
This descriptive evaluation of influenza surveillance in Afghanistan utilized the CDC guidelines for evaluation of surveillance system. The evaluation was conducted at 9 sentinel sites, representing 8 geographical regions across the country from November 2022-February 2023. Data collection involved Key Informant Interviews with influenza surveillance assistants, hospital directors of sites, the influenza coordinator, and PIP focal point. Data were analyzed using Epi Info V 7.2.5 and MS Excel.

Results:
Influenza surveillance evaluation revealed varying performance across indicators. The quality of data in influenza surveillance system was very good. The system was simple to utilize as the 73% of simplicity indicators received good scores. Moreover, acceptability, usefulness and flexibility were average receiving scores of 63%, 67% and 67% respectively. On the other hand, timeliness and representativeness of the system was slightly evaluated to be weak 57% and 50% respectively. However, 62% of stability attribute indicators received weak scores. Finally, the positive predictive value (PPV) was determined to be 16%, indicating the proportion of confirmed influenza cases among the identified cases.

Conclusion:
The findings of this study revealed that the system has user-friendly interface with good attributes. However, the system has plenty of rooms for improvement particularly to sustain its stability and timeliness. Addressing undivided focus on establishing sustainable system with reliable human resources, dedicated working office as well as stable electricity flow could help in optimizing in activities of influenza surveillance system.

Keywords: Field Epidemiology Training Program, Influenza, Surveillance, Surveillance Evaluation, Afghanistan

Access to and use of Long-Lasting Insecticide Net (LLIN) and factors associated with non-use among communities in three malaria endemic provinces of Afghanistan, 2022

Khurshid Alam Sarwary, Khwaja Mir Islam Saeed, Shoaib Naeemi, Mir Salamuddin Hakim, Mohammad Shoaib Tamim, Wahidullah Rawofi, Mohammad Yama Jalal, Habiba Sediqi, Khwaja Agha Ghafoori, Fazal Karim Mandozai

Background:
Long-Lasting Insecticide Nets (LLIN) have been distributed widely in eastern and southeastern region of Afghanistan accounting for 80% of total malaria cases. However, their use and factors associated with is not studied recently.

Objective:
This study aimed to assess the ownership, use, and factors associated with non-use of LLINs in three endemic provinces of Afghanistan.

Methods:
This cross-sectional study surveyed households received LLINs in the past three years across three malaria endemic provinces (Nangarhar, Laghman, and Kunar). A structured questionnaire assessed LLINs utilization indicators after receiving consents of households' heads between October-December 2022. Data analysis was performed using Epi Info v7.2.5.

Results:
From 434 households' heads, 408(94%) were males, half of them being illiterate. A total 1744 LLINs with mean of 4.01 were distributed among 434 household with 1480(85%) being useable. LLINs access was 88% in Nangarhar followed by Laghman 87.8% and Kunar 84%. From total of 3171 members in 434 households,2249(71%) had slept under an LLIN the previous night with proportion of 87% in Laghman, 72% Kunar and 70% in Nangarhar. Two-third of under-five children slept under LLINs the night prior to survey while this proportion was 77% for pregnant women. Age category of 46 years and older ($p<0.05$; CI 95%:1.57-5.02), poor net condition ($p<0.05$; CI 95%:1.8-4.2) were significantly associated with non-use of LLINs. However, fair condition of the net ($p<0.05$; CI 95%:2.7-7.3), knowledge of LLINs use ($p<0.05$, CI 95%:1.01 – 5.91) and using nets for minimizing risk of malaria ($p<0.05$, CI 95%:1.2-8.04) were associated with use of LLIN.

Conclusion:
The study found that Nangarhar and Laghman had the highest LLIN access and utilization respectively. Poor net condition and older age of household heads hindered utilization. Efforts should focus on improving net condition and addressing the concerns of older age groups through targeted interventions.

Keywords: Field Epidemiology Training Program, LLIN, Malaria, Eastern Region, Southeastern Region, Afghanistan.

Moving from CR Technology to DR Technology

Zahidullah Yousuf Zai

Objectives:
The objective of this study is to assess the transition from Computed Radiography (CR) technology to Digital Radiography (DR) technology within the medical imaging field. We aim to examine the motivations behind this transition, the methods employed to implement DR technology, and the associated results and implications.

Methodology:
This research utilizes a mixed-methods approach, combining both quantitative and qualitative data collection techniques. We analyze historical data, conduct surveys and interviews with healthcare professionals, and review technical specifications of CR and DR systems. The data is then analyzed to identify trends and challenges associated with the transition.

Results:
Our findings reveal a clear shift from CR to DR technology, driven primarily by the advantages of superior image quality, increased efficiency, and reduced radiation exposure. Hospital invested in the DR system to stay competitive and provide better patient care. Challenges include the initial capital investment and training needs. However, DR technology adoption has led to improved diagnostic accuracy and patient outcomes.

Conclusions:
The transition from CR to DR technology in medical imaging has proven to be a worthwhile endeavor, with positive impacts on both healthcare institutions and patients. As the technology continues to evolve and become more cost-effective, its adoption is likely to increase, further enhancing the quality of medical imaging and diagnostic processes. Healthcare providers should consider the long-term benefits of transitioning to DR technology and plan accordingly for its implementation.

Session 2

Reproductive, Maternal, Newborn and Child Health and Nursing

Improve patient experience through reduce pre-operative/procedure fasting time at a tertiary care hospital in Kabul, Afghanistan

Gul Pari Nazari, Dr Abdullah Yousofzai, Mohammad Naim Rahmat, Maqbula Sahar, Yaseen Jamakzai, Wais Mohammad Qarani

Background:
fasting prior to anaesthesia and procedure is generally implied in selective surgeries to minimize the risk of aspiration of gastric contents in to pulmonary airway. While the guidelines have determined the period of fasting as 2 hours, 4 hours and 6 hours, the unnecessary prolonged fasting may cause metabolic and behavioural effects on children. It may lead to hypoglycaemia and ketoacidosis, which can influence the need for analgesic and incidence of nausea and vomiting postoperatively.

Purpose:
the purpose of this project was to reduce unnecessary patient NPO-time in the hospital.

Methodology:
We used PDSA cycle to conduct this project. The project was conducted based on the practice that most of the surgery patients were kept NPO on the same time; while, few patients were taken for surgery at the end of day extending their fasting hour beyond the recommended duration. Data were collected from different sources including pre and post tests were implied to determine staff knowledge on the recommended practice. The questions were made using existing policy and literature. Data was analysed descriptively using MS excel.

Result:
Total 60 patient files who were operated during May and June 2022; and 100 patient files who were operated during 2023 were reviewed. It was found that NPO time has decreased to 7 hour in 2023 from 9 hours in 2022. Similarly, the staff knowledge was enhanced 15% in post-test as compared to pre-test. In addition the provision of awareness sessions in which 10 sessions 124 staff; numerous documents including; policy on "keeping patient NOP" and patient family education brochure was developed.

Conclusion/Recommendation:
Despite all the interventions, we still need to reduce the patient NPO time to the recommended time frame which is defined in the hospital policy and established guideline. It is recommended that the project to be extended to next year and strategies be in place to ensure compliance.

Application of partograph in the evaluation and management of obstetric in-labor patients at FMIC, Kabul, Afghanistan

Farzana Wali Jebran, Karima Sadat, Storay Afzaly, Gulalai Wardak, Farhat Jebran

Objective:
To determine the application and role of partograph in the evaluation and management of in-labor obstetric patients.

Introduction:
Partograph is a labor monitoring guide used to avoid delays in detecting difficulties in labor progress. It helps with closer observation, earlier referral, and intervention.

Methodology:
A retrospective cross-sectional observational study was conducted for obstetric in-labor admitted patients and 97 files were reviewed from August and September 2023. A structured Excel sheet was used for data collection and the data was analyzed using SPSS Version 26.0.

Results:
Out of 97 patients' files, 10.3% (10) did not have any partograph.15.4% (15) underwent cesarean section, 40% (6) had Caesarian Delivery on Maternal Request and 60% (9) had other indications for emergency C/S. All 4 failures to progress C/S cases had Artificial Rupture of Membrane (ARM) and augmentation. 20% (19) of patients indicated ARM and 100% had ARM. Out of 24% (23) of patients who indicated augmentation, 91.4% (21) had augmentation. 16.4% (16) of patients had assisted vaginal deliveries. 68%(66) had normal vaginal deliveries. Cervical or vaginal tears were present in 56% (9) of assisted vaginal deliveries and in 30.7% (20) of normal vaginal deliveries

Conclusion:
The application of partograph led to proper obstetric intervention in the majority of patients in the FMIC labor ward. The maternal and their families' disagreement on obstetric intervention for Vaginal Deliveries had a negative impact on the application of partograph, but the rate of cesarean section was still not high. In addition, the newly designed Labor Care Guide (LCG) by WHO should be introduced and applied to in-labor patients.

Dental Problems among Children: a Screening Campaign Conducted by FMIC

Mohammad Naim Rahmat, Dr Nooria Alikozai, Ali Safari, Wais Mohammad Qarani

Introduction:

Dental screening refers to visual inspection of oral cavity by a dental health professional to determine current oral health status and treatment needs. Schools are considered as important platforms for oral health promotion worldwide; and intends to identify children at an earlier stage than symptomatic disease presentation. Hence prompting preventive and therapeutic oral health care for the children.

Objectives:

The purpose of this study was to explore the intensity of dental problems among school-going children.

Methodology:

A project was implemented for the dental screening of children visiting a tertiary care hospital in Kabul during February to July 2023. Children in the schools and those who have directly visited the hospital were screened using standardized screening tool. The screening tool was developed using international literature and the reliability of the tool was done through an expert in the field. The data was transferred into Microsoft Excel and presented descriptively.

Result:

A total of 450 persons were screened for oral health among which 254 (56.5%) were male and 196 (43.5%%) were female. 222 (49.33%) of the participants were less than 12 years old; and 206 (45.78%) were fallen in their 12-25 year of their age. Most of the participants 331 (73.56%) were school going mainly in their primary and secondary grades; and they were mainly 272 (60.44%) were from the local community. 90% of the participants did not have any dental check-up in the past. The oral habit of the participants indicates that 18 (4%) had habit of nail biting or chewing hard objects; 166 (36.89%) had no habit to brush their teeth. On the scale used on intra-oral tissue condition, it was found that 7 participants had changes or unhealthy gums and tissues; 15 participants had changes or unhealthy teeth. 45 participants who were mainly adult had changes or unhealthy dentures. 289 (64.2%) participants were with poor oral hygiene; and 249 (55.3%) participants had dental pain. 127 (28.22%) required medication; 194 (43.11%) received special health education on oral health.

Conclusion/Recommendation:

This study revealed that dental conditions are common among children. These conditions required timely care and management to prevent further complications. Therefore, it is recommended that there should be a mandatory dental screening protocol in the communities importantly in the schools to timely identify and address dental issues in children.

General health status among women in Kabul, Afghanistan.

Zainab Ezadi, Nesa Mohammadi

Introduction:

Physical health, depression, anxiety and dysfunction are highly dependent on general health. This study was conducted with the aim of investigating the general health status and some factors affecting it among women.

Methods:

This is a cross-sectional study on 506 women who were living in Kabul after arrival of the Taliban regime. As a convenient sample, they answered general health questionnaire (GHQ) with 4 Likert scales. We tested the correlation between general health and Physical health, anxiety, dysfunction and depression via the Pearson correlation coefficient. The potential association of socio-demographic with general health were tested via independent samples t-test or one-way ANOVA. All analysis was performed with a 95% confidence level and a significant level defined as a p-value ≤ 0.05.

Results:

The general health of Afghan women is inadequate. General health is linked to physical health, anxiety, dysfunction and depression and all were associated with education level, age, smoking, and ethnicity. Nutshell, we found evidence of a positive and significant correlation between general health and depression.

Conclusion:

This study brings forth the novel data on general health of Afghan women, the members of society that face health crises for more than half a century. This study calls for recognition that inadequate general health in Afghanistan significantly influences health care quality and perpetuates the biggest health challenges for women.

Neonatal mortality: A retrospective data analysis from a tertiary care hospital in Kabul, Afghanistan

Maqbula Sahar, Marufa Muradi, Mohammad Naim Rahmat, Dr. Haji Mohammad Shaheer, Wais Mohammad Qarani

Introduction:
Neonatal mortalities are common and largely associated with pre-term births. Despite pre-term, there are many other factors that contribute to neonatal mortality and morbidity. Determining the factors related to neonatal mortality are vital to design interventions and reduce preventable mortalities and morbidities. Therefore, this study was conducted to determine the demographic characteristics and clinical conditions of neonates who have admitted to neonatal intensive care unit of a tertiary care hospital.

Purpose:
The purpose of this study was to determine the characteristics of patients and their mortality in the neonatal intensive care unit at FMIC.

Methodology:
The data source for the analysis was the patient medical record who have admitted to the NICU during 2022 to August 2023. Data was collected using standardized data collection tool which was derived from the literature. The data was transferred into MS Excel and was analyzed descriptively. Measures were taken to ensure confidentiality of the information.

Results:
Total 82 babies were resuscitated during 2022 to August 2023 among which 74% were male and 26% were female; and they were mainly from Kabul. 69 (84%) patients admitted to the NICU through the ED; 13 (16%) were transferred from within the hospital. Only 33 (40%) of newborns were brought to the hospital on their first day of life. More than 57% were pre-term. Patients' weight ranged from 690gm to 3700 gm. Nearly 50% of newborns had weight less than 2000gm. Patients presented with Pre-maturity, neonatal sepsis, RDS, birth asphyxia, IUGR and CHD respectively. 50% of patient born through C-Section. 60 (73%) of the newborns were with APGAR score less than 7 at five minutes of their birth. Hospital average length of stay was 5 days ranging from 1 to 50 days.

Conclusion/recommendation:
Our study revealed similar findings on what is reported in the literature pertaining to factors associated with neonatal mortality. It is recommended that referral systems should be established for quick referral and comprehensive neonatal resuscitations should be in place in both referring and referral sites.

Enhance Staff Knowledge and Skills on Basic Life Support to Save Life: Knowledge Retention Survey in a Tertiary Care Hospital in Kabul – Afghanistan

Nazia Barat, Abdul Qaher Jawad, Zhala Hayeri, Feroza Barat, Najma Mirzaie, Mohammad Asif Hussainyar, Wais Mohammad Qarani

Introduction:
Cardiopulmonary resuscitation is an emergency lifesaving procedure that attempts to restore circulation and breathing in an individual who has experienced cardiopulmonary arrest. The person who resuscitates patients need special training; and they should have the required knowledge and skills to perform Basic Life Support (BLS). Numerous trainings on the provision of BLS are conducted in our context which require to be evaluated.

Objective:
The aim of this study was to assess the effectiveness of BLS training to enhance the knowledge and skills among healthcare providers in a tertiary care hospital in Kabul, Afghanistan.

Method:
A cross-sectional study using random sampling technique was used to conduct this study during January to September 2023. Staff duty rosters were the source for sampling among which every odd numbers were selected to be enrolled in the study. Total 161 healthcare providers who were certified as BLS provider participated in the study. Consent was taken from the participants; and confidentiality of the participants and information was maintained. Data was transferred into MS Excel and were analyzed descriptively.

Result:
Total 161 staff 50% male 50% female participated in the study. Majority of the participants fall in the age category of less than or equal to 30 years (58%). 33% of them were from the critical care areas and 67% were from the non-critical care areas. The proportion of medical doctors, nurses and midwives were 16%, 72% and 12% respectively. Among the nurses and midwives 14% were holding bachelor degree and remaining were holding diploma. In general, the staff scored 84.17% of the total marks, among which critical care areas scored 2.17% better than the non-critical care areas. In the knowledge and skills retention test, male scored 85.72% & female scored 82.72% of the total marks. Participants falling in the age category of less than 30 years had 0.67% better knowledge as compared to others. There was no relationship between staff educational level and the score they gained.

Conclusion:
Staff knowledge and skills on BLS was found better as compared to what is reported in the literature from the region. Integration of the nursing education services department in the hospital structure is vital in maintaining and updating staff knowledge. Therefore, it is recommended that BLS trainings to be part of regular professional development plan of healthcare staff through a designated department.

Factors associated with respiratory distress syndrome (RDS) in preterm neonates admitted at FMIC in Kabul city: A retrospective cross-sectional study

Dr. Omid Ahmad Faizi, Dr. Farid Faqiri, Dr. Mansour Aslamzai

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

Objectives:
The purpose of this study was to find the occurrence rate and associated factors of rds in premature neonates.

Methods:
This retrospective cross-sectional study was conducted at the neonatal intensive care unit of the French Medical Institute for Mothers and Children hospital in Kabul city, Afghanistan during (01/01/2022-30/12/2022). Statistical analysis was performed by SPSS 24.

Result:
A total of 78 preterm newborns were enrolled in this study, and respiratory distress syndrome developed in 51.3% of them. Based on gestational age, the occurrence rates of RDS within groups of extremely, early, moderate and late preterm neonates were 100%, 55.6%, 44%, and 35.7% respectively. The occurrence of RDS was found to be 100% in extremely low birth weight, 56.2% in very low birth weight, and 58.8% in low-birth-weight neonates. The gestational ages of these infants had a positive correlation with birth weight ($r = 0.648$, $p = 0.01$, $n = 78$). The preterm neonates in the RDS group versus the non-RDS group had a mean birth weight of (1610±314.4 g vs 1981±520.3 g), a mean gestational age of (31.65±2.2 w vs 33.18± 2.10 w) and a mean hemoglobin level of (13.85± 3.28 g vs16.09± 3.26 g). There was a significant association between RDS and neonatal anemia (AOR=5.9), neonatal sepsis (AOR=4.2), vaginal delivery (AOR=8.7), delivery at low-resourced settings (AOR=2.7), PROM (AOR=4), and antepartum hemorrhage (6.9). The mortality rate in preterm neonates was found to be 26.8% that was significantly associated with very and extremely low birth weights (AOR=8.2), early and extremely preterm births (AOR=6.3), female gender (AOR=3.8), antepartum hemorrhage (AOR=4.6,) and PROM (AOR=5.7).

Conclusion:
RDS was highly prevalent in preterm newborns, and the highest rates were seen within groups of extremely preterm and extremely low-birth-weight newborn babies. RDS was found to be associated with lower neonatal birth weight, gestational age, and hemoglobin level, as well as neonatal anemia, neonatal sepsis, vaginal delivery, birth in low-resource settings, PROM, and antepartum hemorrhage. The neonatal mortality

in preterm neonates was higher than high-income country. Proper management of the aforementioned associated factors will reduce the incidence of RDS and neonatal mortality in preterm neonates.

Session 3

Quality and Patient Safety

Journey of Medication Reconciliation Compliance in a Lower Middle-Income Country

Samar Fatima, Ainan Arshad, Amara Zafar, Sana Farrukh, Anum Rahim, Saharish Nazar, Hasnain Zafar

Objectives:
This study aimed to assess the overall compliance to medication reconciliation in different departments of Aga Khan University Hospital (AKUH) over four years. Additionally, we aimed to determine whether pharmacist-led medication reconciliation is an effective way to achieve good compliance to medication reconciliation at admission. Another objective was to identify the discrepancies between the medication history taken by the physician at the time of admission and those collected by the pharmacist within 24 hours of admission.

Methodology:
This study was conducted at AKUH, Karachi. Data was gathered from two different sources. The first source involved retrospective data obtained from the Quality and Patient Safety Department (QPSD) of AKUH, consisting of records from 8,776 patients between 2018 and 2021. The second data source was also retrospective data from a quality project initiated by pharmacists at AKUH. Pharmacists collected data from 1,105 patients between 2020 and 2021, specifically focusing on medication history and identifying any discrepancies compared to the history documented by physicians. The collected data was then analyzed using SPSS version 20.

Results:
The QPSD noted an improvement in physician-led medication reconciliation, with a rise from 32.7% in 2018 to 69.4% in 2021 in computerized physician order entry (CPOE). However, pharmacist-led medication reconciliation identified a 25.4% overall discrepancy in the medication history of 1105 patients admitted from 2020-2021, mainly due to incomplete medication records in the initial assessment forms and CPOE. Physicians missed critical drugs in 4.97% records; pharmacists identified and updated them.

Conclusion:
In a lower middle-income nation where hiring pharmacists to conduct medication reconciliation would be an additional cost burden for hospitals, encouraging physicians to record medication history more precisely would be a more workable method. However, in situations where cost is not an issue, it is recommended to adopt evidence-based practices, such as integrating clinical pharmacists to lead medication reconciliation, which is the gold standard worldwide.

A study of the complaints lodged in Afghanistan Medical Council from Jan/2019 to Jan/2021 and its Relation with Hospital Management

Dr Nafiullah Pirzad

Introduction:

Today, medical error is considered as an important challenge in the health systems of the world, especially in developing countries. According to published reports, one of the main reasons for the increase in the number of complaints in hospitals is medical errors. Since the issue of medical errors and patients' complaints is considered as one of the important issues and topics in line with the safety of patients and the occupational safety of doctors, research in this regard also seems necessary. This study is designed to investigate medical complaints and factors affecting them and also its relationship with hospital management.

Methodology:

A cross-sectional research was done with a descriptive-analytical and retrospective method. Information from one hundred complaint files reviewed and finalized in the Afghanistan Medical Council during the years 2019 and 2020 has been collected by completing the prepared form and checklist and analysed by SPSS 20 program.

Findings:

According to the results of this study, the most complaints are from doctors with a frequency of (72%) and then against other medical groups and according to the specialty most complaints have been lodged against obstetrics & gynecology doctors with (35%), surgical doctors (17%) and orthopedic doctors (13%). The causes of filing a complaint by the complainants were incorrect operations (42%) and unprofessional and incorrect treatment (19%). The highest frequency of complaints in terms of degree and intensity was severe (41%), major (33%) and moderate (15%).

Most of the main causes of complaints received after investigation were (49%) behavioural and ethical problems, (28%) financial issues, (11%) problems in the doctor's specialized knowledge and lack of experience. Management problems were also received in (65%) complaints. The main type of error occurred was systemic with frequency (58%) and human error (26%). By implementing the Spearman test, a significant relationship was found between the intensity and degree of complaints and the existence of management problems. (P-value 0.000)

Conclusion:

The occurrence of medical errors and complaints has been identified as a weak point in the management of hospitals in this study and leads to a decrease in patient safety and satisfaction. Therefore, management guidelines and quality improvement strategies should be created and strengthened, and the management of hospitals in the country should be carried out in its specialized form by competent and professional people who have been trained in this field. Also, based on the findings of this study, the majority of complaints stem from the lack of proper communication between the doctor and the patient. In order to overcome this problem, it should be considered to institutionalize medical ethics programs, such as including it in academic and specialization curriculum and other related educational programs. Doctors' conduct based on professional and ethical standards and regulations can prevent the majority of complaints. It is important to pay attention to this in the professional practice of doctors.

Improve OR efficiency

Zakia Hassani, Dr Ahmad Reshad Akbari, Munira Ramzi, Shabnam Azad, Rahmali Alamyar, Gulpari Nazari, Sajia Baqayee, Shukruddin Akbari, Dr Abdullah Bahloli, Dr Hasib Safi, Dr Shekaib Behroz, Enayat Fayaz, Wais Mohammad Qarani

Background:

Operating Rooms (ORs) are probably among the most important areas of the hospital. While the workload is high, it generates revenue. OR efficiency depends on scheduling of cases, allocation of staff, equipment, time required for preparation and induction of anesthesia, performance of surgery, preparation of the OR for the next patient and other resources. Therefore, it is vital that these parameters are accurately monitored to ensure efficiency.

Purpose:

The purpose of this project was to identify gaps, design strategies to overcome the gaps, and improve efficiency in the operating room.

Methodology:

This project was conducted based on the complaints of delays in the start and turn-around time of the operating rooms. We used pre and post project methodology to identify issues in the utilization of OR. Data was collected retrospectively from the patients' medical records. The data collection tool included data to tract patient flow and their times from the time they are called to the OR until they are taken out from the OR. The duration for the data collection was considered Jan-Mar 2023 as pre-project and Jul-Aug 2023 for post-project. Data was transferred into MS Excel and presented descriptively.

Results:

We used PDSA cycle to guide this project. As part of our interventions; additional investment is done to improve access to the ORs. Hence, an induction room was converted into OR for minor procedures. The staffing level has been increased to cover the newly established OR and also operationalize the Obs/Gyne OR number two. The OR start time has been brought 30 minutes ahead in the early morning. As part of other achievements, bronchoscopy service is also started for the first time in the hospital.

Considering that delays are in either: 1) during patient transfer from ward to OR, 2) patient transfer from pre-op area, 3) patient induction start time 4) time patient inducted, 5) patient incision time, 6) patient wake-up time and their transfer to RR. Our interventions had significant improvement in reducing these delays. Therefore, in general there was more than four minutes saving in each of the above variables. Improvement ranged from 3 to 7.5 minutes; and were significant in adult GS, cardiovascular, vision, orthopedics, GS peads and ENT respectively.

Conclusion/recommendation:

This project played a key role in the efficiency and utilization of the operating room. Monitoring of the interventions will be continued to bring further improvements and reduce delays in the OR start turnaround time.

Efficiency in the Out Patient Department to Improve Customer Satisfaction

Ali Mohammad Safari, Feroza Barat, Amruddin Paiwandi, Laila Ebrahimi, Rasul Muradi, Dr. Sultan Mohmod Alkozai, Parwin Hazem, Ahmad Farid Amani, Saliha Formuli, Engineer Asadullah Asad, Wais Mohammad Qarani

Background:
Outpatient department (OPD) is crucial and face of a hospital for medical treatment. Services provided in OPD should be of quality and be well coordinated to improve patient and customer experience. Satisfaction surveys are one way to understand what patients and customers think about their recent experience in the hospital. These surveys capture self-reported patient and customer experience at different levels. And it attempts to translate patient experience into meaningful and actionable data. Given the vitality of the OPD for a hospital, strategies to be in place to improve patient experience.

Objective:
This project aimed to identify gaps and improve patient care and satisfaction in OPD; and ensure compliance with the international standards.

Methodology:
We used, PDSA cycle to guide a quality improvement project during 2023. Problem identification, analysis, designing the interventions including resource availability and policy development, and execution were the main domains of this project. Furthermore, a survey form with 10 questions including an open-ended questions was used to determine patient experience. Additionally, other sources such as patient satisfaction previous survey results and administrative indicators were also used for the extraction of data for this project to identify the gaps and plan for improvement.

Result:
It was found that the patient satisfaction in OPD was 88% during first two quarters of 2023. We received total 9 written complains mainly related to behavior and long waiting time. Total 13.5% of patients received prior appointment. Extra resources are allocated such as sound system in adult clinics, two staff were hired, the number of nursing assessment rooms increased to three in both adult and pediatric OPDs, more than 100 waiting seats are added in the different locations. And guiding signage are pasted in different locations for the guidance of patients and customers.
The patient satisfaction survey conducted from 350 patients indicate that 37% of the patients were initial; and 33% had prior appointment; and more than 98% of the patients were overall satisfied from the services in OPD. More than 96% of the patients were satisfied from the reception services and stated that they have been guided properly. More than 99% of the patients stated that nurses were helpful and courteous and provided adequate guidance. More than 97% stated that doctors have given them the required information. The waiting time verbalized by the patients were; 41, 36, 63 minutes before registration, before assessment and before consultation respectively. Patients stated that delays (27), behavioral issues (10), financial issues (12) were the main areas for improvement; while 12 others highly appreciated the FMIC services. As part of sustainability, new indicators such as; doctor arrival time and waiting time are monitored to improve services.

Conclusion/Recommendation:

When healthcare systems focus on quality improvement, they can create significant change within the institution. Numerous strategies including monitoring strategies are in place to improve the operation the performance of OPD. The daily patient satisfaction survey will continue to further improve the operations and customer satisfaction.

Improve customer satisfaction through bringing performance improvements at the HIMS department of FMIC

Ahmad Farid Amani , Asadullah Asad, Ataullah Amini, Ali Mohammad Safari, Zahra Ehraz, Hamidullah Abbasi, Wais Mohammad Qarani

Background:

The hospital Health Information Management System HIMS department is responsible to retain patient records in safe custody; and meet customer needs for the provision of related documents. An effective process in the department will have a positive impact in patient care and customer satisfaction. Therefore, we had to plan and execute a project to improve the operations of the HIMS department.

Objective:

This project aimed to enhance customer satisfaction through bringing operational efficiency and improve quality in the Health Information Management System at FMIC.

Method:

This is the result of a quality improvement project conducted during 2023. PDSA cycle was used to guide this quality improvement project. Problem identification, analysis, designing the interventions including resource allocation and policy development, and execution were the main domains of this project.

Result:

We identified numerous areas for improvements in the department among which; space constrains, delays in the delivery of records, incomplete records received from the departments, integration of appointment system with HIMS, fire safety concerns, monitoring of patient related records were the mains areas. The identified problems were prioritized and interventions were designed accordingly. During the course of project 80,000 out of 400,000 inactive records were scanned to create four 40ft-containers space within the department. Furthermore, the containers scattered in different locations are placed in one location which has benefited in terms of easy access and time saving. Similarly, as a result of increase in the number of patients with prior appointment, delays in the delivery of records have reduced from 40 to 24 minutes.
Furthermore, the available fire suppression system is not intended for the medical record; therefore, resources are allocated to replace it with FM200 fire suppression system during 2023.
Beside coordination meetings with stakeholders, new strategies such as the review of 10% of OPD records reduced the number of incomplete files from 37% to 15%; and review of 100% of inpatient records has reduced the number of incomplete records from 40% to 9%.

New indicators such as file delivery time and trend of incomplete files received from the inpatient departments are monitored since Q2 2023. In addition, the records are circulated within the hospital in consideration of strict controls in place.

Conclusion/Recommendation:

Numerous strategies including monitoring strategies are in place to improve the operations of the HIMS department. It is recommended that additional resources to be allocated to create more space and improve the efficiency.

Nurse Compliance to Nursing Care Documentation at a Tertiary Care Hospital, in Kabul

Gulbarg Temori, Tawab Baryalai, Naim Rahmat, Gulpari Nazari, Parwana Rajabi, Sajya Baqaye, Najma Mirzae, Munira Ramzi, Mohammad Yasin Jamakzai, Shaker Yaqoobi, Maqbula Sahar.

Introduction:

Clinical documentation is the process of creating a written or electronic record that describes a patient's history and the care given to a patient. Nurses document their work to provide information to the healthcare team, families, and healthcare organizations. Poor nursing documentation in the acute care setting may have negative impacts such as putting healthcare organizations and providers at risk of liability.

Purpose:

The aim of this quality project is to improve the quality of nursing documentation in terms of characteristics such as accuracy, relevance, consistency, completeness, legibility, timeliness, reflection of the nursing process, and use of standardized abbreviations.

Methods:

Plan, Do, Study, Act (PDSA) framework was utilized to develop this project. First, the need assessment was done by nursing team including head nurses of all inpatient departments. The data was collected from the medical record department by reviewing a total of 230 patients' files from November 2022 to September 2023 using a structured checklist, including 105 files from Q4 of 2022 and 225 files from Q1 till Q3 2023. The overall average scoring of nursing documentation in Q4 of 2022 was 84.6%. The Close medical record revision scoring of nursing in 2023 Q1, Q2, and Q3 were 86%, 85% and 85% respectively. Furthermore, a pre-test was conducted to assess staff knowledge regarding documentation, followed by sessions on documentation and post-test. Moreover, in the month of August, 2023 a checklist was prepared and distributed to the head nurses to evaluate their respective department's nursing documentation.

Result:

During this project it was found that the factors that negatively impacted nursing documentation are lack of knowledge, shortage of staff and work overload**.** Out of 228 staff _ staff??? had been covered excluding OPD and emergency staff. The pre-test and post-test difference is -%. During the month of October, a number of files were reviewed and the average score is %. Some improvement was seen in terms of following error policy, missed entry, and event note.

Conclusion:

Nursing documentation is one of the important communication tools for the exchange of information between healthcare personnel. Because of work overload and shortage of staff documentation cannot be done as required. However, during the sessions nurses stated that they try to do quality documentation.

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

Parwana Rajabi, Eng. Tamana Kohistani, Munira Ramzi, Sajia Baqayee, Gulpari Nazari, Maqbula Sahar, Wais Mohammad Qarani

Background:

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

Objective:

This project aimed to identify loops in the departments; and design interventions to reduce the number of incidents related to the breakage of medical equipment.

Methodology:

We used, PDSA cycle to guide this quality improvement project during 2023. Data were gathered from different sources including incidents reported to the hospital quality and patient safety department. Problem identification, analysis, designing the interventions including resource availability and policy development, and execution were the main domains of this project.

Result:

It was found that the number of incidents were; 24 during 2022 and 22 during 2023. These incidents occurred mainly during 06:00 to 10:00 then 11:00 to 14:00 mostly on Sundays and Tuesdays; and the number of incidents were lowest during Fridays. The breakages reported were mainly syringe pumps and then cardiac monitors. The root cause of the incidents varied. Staff training on the use of medical equipment was the main intervention in which 23 training sessions were conducted and 127 staff were benefited.

Conclusion/Recommendation:

The number of incidents related to medical equipment remained same during 2022 and 2023; and it is expected that the interventions implied will have a positive impact on reducing the incidents hereafter. It is recommended that the same project to be continued during 2024 to evaluate the outcome and improve further.

Reasons for delay in the reporting of panic laboratory results and the strategies to this delay

Dr. Esmatullah Esmat, Dr Ahmadullah Hakimi, Dr. Ramin Saadaat, Edris Waheedy, Daud Hamderd, Noor Hassan Saedi, Mawloda Yari, Dr. Ahmed Maseh Haidary.

Introduction:
The concept of panic value (alert values), defined as an imminent life-threatening laboratory result requiring immediate physician notification, has been widely adopted as a standard of good laboratory practice. Laboratory test results are sensitive to changes in treatment. Panic values may directly influence the diagnosis as well as the course of treatment in many cases. In this study we aim to identify the reasons for delay in the reporting of panic laboratory values as well as the strategies adopted to overcome this delay.

Methodology:
Data were collected from French Medical Institute for Mother and Children (FMIC) Integrated Laboratory Management System (ILMS) software in excel sheet in two period of time, the pre-intervention period was from first January 2023 up to first June 2023 and the post-intervention period started from first august 2023 up to 30 October 2023. All laboratory panic values including test types, location, person informed to, response and not informed values were extracted in excel sheet. After problem analysis, defining probable causes and selecting strategies to reach our goals. Multiple interdepartmental meeting and training were also conducted. Then the post intervention data were collected for the same parameters and compared with the pre-intervention data.

Results:
From 1942 panic value which were observed during pre-intervention period 1477 (76%) were informed on time by phone call to physician, nurses and patient relative, whichever was relative to the situation. 312 (16%) tests were panic but due to not responding to phone calls were not informed and 237 (12.2%) were not informed by the laboratory staff. The highest frequency of not being informed was for Potassium (K) 68 (29%), Total Bilirubin (TB) 51 (51.5%) followed by blood glucose (GL) 36 (15%). According to patient location. the out patients 121 (51%) were more than inpatients 116 (49%), being not informed regarding panic values. After intervention period there was significant improvement in the status of panic value "not informed" that reduced from 1017/1326 (78%) to 210 (15%).

Conclusions:
Regular staff training, awareness development, regular monitoring and regular staff meetings are essential to ensure that panic laboratory values are informed to the customers, both the doctors/ nurses for inpatient requests as well as the patient/ patient relatives for outpatient requests.
Keywords: Delay, Panic results, laboratory tests, strategies, improvements.

Session 4

Non-communicable Disease

Sclerotherapy for the management of venous malformations: Experience from a single institution in Afghanistan

Mohammad Tareq Rahimi, Tawab Baryali, Ahmad Rashad Akbari, Ramin Saadaat, Mohibullah Salehzai, Ahmed Maseh Haidary.

Introduction:

Vascular malformation occurs due to different intrauterine developmental abnormalities, which result in anomalous angiogenesis involving the vascular and lymphatic system. According to Mullikin and Glowacki classification, vascular abnormalities can be broadly classified as hemangiomas which are benign vascular lesions with a proliferative and involution phase, and vascular malformations involving arterial, venous, capillary, and lymphatic tissue as well as fistulae.

The head and neck are involved in two-third of cases causing cosmetic and functional aberration. The abnormality remains silent until adolescent age when the lesion evolves into an expansile mass in response to the hormonal changes. Color Doppler ultrasound, CT scans, MRI, and angiography may be utilized to evaluate the extent of the disease. Sclerotherapy is the mainstay of treatment with absolute alcohol and sodium tetradecyl sulfate being the most commonly used sclerosing agents. Surgery is indicated only in those cases where residual lesions remain after sclerotherapy or for aesthetic purposes. Alternatively, laser therapy can be useful especially in superficial venous malformations and in oromucosal lesions. In this study we present three patients who presented with venous malformations (VMs) involving the lip and requiring 98% ethanol injection as sclerosing agent.

Case number 1: A 6-year-old girl, presented with lower lip mass that resulted in significant deformity of the lower lip. Doppler ultrasound study revealed well-defined hypoechoic mass of heterogeneous echotexture with multiple cystic spaces within the lesion.

Case number 2: A 17-year-old boy, presented with a mass in the right half of the upper lip that resulted in significant deformity and disfiguring of the upper lip.

Case number 3: 17-year-old, girl, presented with purple-brown colored exophytic lesion of the upper lip. CT scan revealed a well-defined soft tissue mass involving the skin and subcutaneous tissues in the medial aspect of left cheek could be representing a vascular malformation.

Conclusion:

For the VMs affecting the lips, sclerosing therapy using 98% ethyl alcohol as the sclerosing agent is a convenient and efficient modality for the management of VMs, especially in a lower socio-economical setting. As in the cases described here, this method is having good aesthetic outcomes along with preservation of function.

Effectiveness of Food Safety Law in Afghanistan

Sayed Mohammad Naim Khalid

Introduction:

Afghanistan's food safety law, despite its relatively recent implementation, faces several challenges that undermine its effectiveness. While the establishment of Afghanistan's FDA represents a significant achievement, the lack of comprehensive supporting legislation limits its impact. Weaknesses in public food safety labs, food inspection capacity, food control management, and food safety public outreach hinder the successful implementation of the law. Additionally, the absence of private food safety laboratories, limited implementation outside the provincial capitals, inadequate knowledge of food safety practices among stakeholders, and insufficient training contribute to non-compliance with food safety standards. This paper aims to examine the current state of food safety in Afghanistan, focusing on the effectiveness of the food safety law and identifying areas for improvement.

Methodology:

To evaluate the effectiveness of food safety law in Afghanistan, data was collected from two sources. First, a total of 15 interviews were conducted with diverse stakeholders, including customers, producers, food manufacturers, transporters, and food storage facilities. Second, 15 government inspection videos of food facilities, which were independently released by journalists, were carefully reviewed. These interviews and video analyses aimed to gather firsthand evidence regarding food safety practices and identify any instances of non-compliance with the law.

Results:

The findings reveal a lack of compliance with basic food safety and hygiene regulations among food facilities. Stakeholders exhibit minimal knowledge of food safety practices and fail to adhere to Good Manufacturing Practices (GMP). This failure leads to an increase in foodborne illnesses, resulting in economic burdens due to lost productivity and increased healthcare expenses. Furthermore, the government regulatory agency lacks the necessary capacity and resources to effectively monitor and regulate all food businesses throughout the country. The Health Management Information System (HMIS) also fails to collect sufficient data on foodborne illnesses to support evidence-based policy decisions. The absence of formal food science education further compounds the issue, impacting the skills of the workforce in the food industry.

Recommendations:

To enhance the effectiveness of food safety law in Afghanistan, the following recommendations are proposed: Establish minimum requirements for starting a food business from a food safety perspective, focusing on meeting the basics of Good Manufacturing Practices (GMP). Mandate mandatory food safety and hygiene training for all individuals involved in handling food. Implement a grading system primarily for restaurants and food retailers, allowing customers to assess their food safety compliance status. Integrate foodborne disease surveillance into the national Health Management Information System (HMIS) to facilitate data collection and informed policy decisions. Increase formal food safety education efforts to develop a larger pool of qualified food safety professionals.

Conclusions:

The effectiveness of food safety law in Afghanistan is currently limited due to non-compliance, inadequate resources, and insufficient food safety data collection. This poses significant risks to public health and the overall well-being of the population. Inadequate implementation, lack of resources, limited knowledge, and poor compliance undermine efforts to ensure safe food practices. However, promoting and supporting private food safety initiatives, such as the establishment of laboratories, self-inspections, and adherence to internationally recognized food safety standards such as HACCP, ISO 22000, SQF, BRCG, IFS and others, can contribute to improvements. The proposed recommendations aim to address the identified shortcomings and enhance the implementation of food safety law in Afghanistan. By prioritizing education, implementation, food safety data collection through HMIS, and the involvement of the private sector, the government can regulate and control food safety practices effectively. Ultimately, these efforts will lead to improved public health outcomes and a safer food supply chain in Afghanistan.

Keywords: *food safety law, food safety labs, food inspection, food control management, foodborne disease, food supply chain, food safety data*

Upper gastro-intestinal bleeding and severe anemia due to leech infestation in the middle part of esophagus in a one-year-old baby

Tooryalai Jalalzai, S.M.Alikozai, A.Jamil Rassooly, J.A.Sestani, N. Safi, Sahar Noor, Khalid Safi, Wali Aryan, Lemar Jawid

Background:
Upper gastro-intestinal (GI) bleeding is rare in first year of life. The most important signs are hematemesis, Melena and pallor. According to the etiology it could be associated with or without signs of bleeding into the skin and other parts of the body.
The common causes of upper gastro-intestinal bleeding are esophageal varies bleeding, severe thrombocytopenia due to any cause, congenital and acquired coagulopathy, cow milk protein allergy, caustic burns, esophagitis. Alive foreign body in the upper GI system is a very rare cause of upper GI bleeding.

Objective:
To report the rare cause of upper GI bleeding and severe anemia in an infant presented with hematemesis, and melena.

Methodology:
this study is a case report

Result:
A 12-month-old female patient was brought to FMIC from a rural area of a province in the north of Afghanistan due to 5 days' history of periodic irritability, vomiting, hematemesis, melena and progressive pallor. During these 5 days the baby received once whole blood transfusion in the local hospital.
On physical exam baby was irritable and pale. There was no sign of bleeding into the skin, no lymphadenopathy and no hepatosplenomegaly were found in physical exam. Her cloths were blood stained. However, there was no any site of bleeding inside the mouth but fresh blood was observed inside the mouth. In investigations including, PT, APTT, Coting time, Bleeding time, Abdomen ultrasonography, Chest x-ray was unremarkable. CBC showed just low hemoglobin (Hb: 5.9g/dl) The patient prepared for upper GI endoscopy which done under general anesthesia and revealed an alive leech attached in the middle part of the esophagus. During the procedure the alive leech was removed successfully and repeated endoscopy done to search for more leeches in distal part of the esophagus and stomach which was unremarkable. The patient was kept under observation for 3 days more. Hb stabilized, there was no more vomiting, hematemesis, melena and pain. In follow up visits the patient was well looking, hemoglobin not dropped again and hematemesis and melena not recurred.

Conclusion:
one of the very rare cause of upper GI bleeding and anemia in children especially in rural area is leech infestation in upper GI system and should be considered if other causes for bleeding are ruled out.

Proportion and Histopathological Features of Cutaneous Malignant Tumors Diagnosed in a Tertiary Care Center, Kabul, Afghanistan

Jamshid Abdul-Ghafar, Mujtaba Haidari, Haider Ali Malakzai, Ahmed Masih Haidary, Sayed Murtaza Sadat Hofiani, Yasmin Nadeem Parpio, Ramin Saadaat, Esmatullah Esmat, Abdul Latif Khairy, Ahmadullah Hakimi, Zekrullah Baset

Background:

Cutaneous neoplasms are the most common type of malignant tumors worldwide, particularly in countries like Afghanistan where the people have fair and low-pigmented skin. The aim of this study was to determine the frequency and histopathological characteristics of skin cancers diagnosed at a tertiary care level over a period of five years in Kabul, Afghanistan.

Methods:

This is a descriptive case-series study that includes 436 patients from all age groups diagnosed with malignant skin neoplasms at the Department of Pathology and Clinical Laboratory, French Medical Institute for Mothers and Children, Kabul, Afghanistan. We reviewed patients' records of the last five years.

Results:

Among all the cases included, majority of the participants were males. Squamous cell carcinoma was the most frequent skin cancer, accounting for 52.5% of the cases, followed by basal cell carcinoma (35.8%), malignant melanoma (5%), and other skin malignancies (6.7%). The head-and-neck region was the most common affected area of the body, comprising 66.9% of the cases, with the nose being the most common site of involvement in the both genders. In males, the second most frequently involved region was the orbital area, followed by the ears. On the other hand, the ears and orbital region showed a very low rate of involvement among females. Surprisingly, among 190 cases (43.5%) of the clinically excised lesions, only 39% were confirmed microscopically to be completely removed with negative resection margins. Regarding the availability of clinical information, only 6.6% of the histopathology request forms had proper clinical data, while all the remaining cases lacked appropriate clinical details.

Conclusion:

Unlike what is reported in the English literature, we found squamous cell carcinoma as the leading skin cancer type in Afghanistan, followed by basal cell carcinoma and malignant melanoma. Furthermore, the lack of complete clinical information in the majority of the histopathology request forms and the high frequency of clinically excised tumors with microscopic involved margins were the significant findings of our study.

Factors associated with Blood Glucose levels among Afghan people aged 18-69 years old: Evidence from a National Survey

Giti Azim, Mohammad Hasher Azim, Hosna Hamidi, Ahmad Sultan Halimi

Objective:
To determine associated factors of Blood Glucose (BG) levels in people aged 18 to 69 years old in Afghanistan based on NCD STEP Survey 2018

Method:
This was an analytical cross sectional study design using data from the national survey of Non-Communicable Disease STEPs (NCD STEPS) survey in Afghanistan. The total sample size in original study was 3,972 aged 18-69 years old with multi-stage cluster sampling method. Blood Glucose was the outcome variable for this study while age, gender, education, marital status, salt intake, hypertension, physical activity and BMI (overweight and obesity) were the independent variable. Simple linear regression and multivariate linear regression were performed using weighted analysis to find the associated factors for the outcome variables using weighted survey setting.

Findings:
The result of bi-variate linear regression analysis indicates that age, marital status, high blood pressure and BMI are positively associated with Blood Glucose levels while education, salt intake and any type of physical activity are negatively associated with it (p-value<0.05). While controlling for all variables in multivariate linear regression; positive association was observed between blood glucose and higher age categories, people with hypertension, overweight and obese people while the association with negative in people having tertiary education, people who took salt always and people who had any type of physical activity (p-value<0.05) with all other variable not being significant in the model.

Conclusion:
The finding of this study shows that blood glucose increases in people of older age categories, married people, people with hypertension, overweight and obesity; while decreases in people with higher education categories, people who always take salt, and people who do physical exercise.

Sclerosant therapy for neck lymphangioma: an excellent aesthetic outcome

Dr. Roohullah Hares, Dr. Mohammad Tareq Rahimi

Introduction:

Lymphangioma is a congenital malformation of the lymphatic system. The most usual sites of lymphangiomas are the head and neck, however it mostly found in the head and neck; however, in the axilla and mediastinum are found less frequently.

Cystic lymphangiomas are categorized as benign lesions and the real pathogenesis is still unknown, but it thought to be the failure development of lymphatic tissue. Cystic lymphangiomas are usually symptomatic and diagnosed before age of 2 years.

Case report:

A 14-year-old boy, presented to the out-patient clinic with the complaint of an isolated large cystic mass in the right and posterior side of the neck in the past 2 years. The swelling grew up gradually and there was no history of trauma or surgery to the neck. In physical examination, a well-defined cystic mass of 10 cm x 12 cm was palpable in the right posterior side of the neck which was immobile and non-tender with normal overlying skin. Neck CT scan reported cervical cystic lymphangioma. Laboratory workup was normal. One needle technique sclerosant therapy with ethyl alcohol 98% was planned and was discussed with patient's parents. Under general anesthesia, the cystic mass was punctured, the content of cyst was drained; then 1/3 of cavity filled up with ethyl alcohol 98%, Subsequently the cavity was irrigated with normal saline 0.9%. The patient was discharged in the second post operative day in a satisfying condition and was followed up after 3 months with significant changes in physical appearance and the patient could do neck movements normally.

Discussion:

Treatment options for lymphangiomas are based on the locations, types and complication of the lesions. Surgical excision is the cornerstone of treatments, but it's not applicable for all cases due to several complications. Some authors advocated for non-surgical treatment as an alternative treatment especially in the head and neck by percutaneous sclerosant therapy.

Conclusion:

Sclerosant therapy with ethyl alcohol 98% is an efficient, convenient and cost-effective treatment modality with excellent cosmetic and functional outcomes in macrocystic and mixed types of cystic lymphangiomas affecting neck and face especially in limited resource settings.

Leg and foot compartment syndrome caused due to intravenous contrast extravasation Case Report

Dr Shekaib Rahman Behroz, Dr Mirza Mohammad Nijrabi, and Dr Azizullah Banaiee

Introduction:
Leg compartment syndrome is a rare disorder which could cause due to injuries, acute fracture, electric injuries infection, penetrating trauma, IV contrast dye extravasation and etc. Failure to diagnose and cure it initially leads to major functional problems to the leg. Acute Compartment Syndrome (ACS) need urgent surgical treatment.

Objective:
The aim of this paper is to describe the outcomes of immediate surgical treatment of leg and foot compartment syndrome at FMIC, Kabul, Afghanistan

Case presentation:
A 3-year-old boy, who was hospitalized in the pediatrics surgery department for chief complain of abdominal problem, he was operated for hiatal hernia 1.5years back and was admitted for recurrent hiatal hernia. He was evaluated by orthopedic doctor, for pain and swelling of his right leg and foot that was developed during CT scan with IV contrast. The swelling was caused due to IV contrast extravasation from a mal placed IV cannula on his right foot. As soon as the foot and leg swelling were developed, IV contrast was stopped and IV cannula removed by the radiologist. The child was assessed regularly by orthopedic surgeon post-CT scan he developed right leg and foot severe pain and significant swelling with skin blistering. Urgent leg and foot fasciotomies were done for him under general anesthesia which result in to a normal functional outcome.

Conclusion:
Hereby we present a rare case of leg and foot compartment syndrome which is caused by intravenous injection of contrast dye. Leg and foot compartment syndrome post IV contrast is a rare condition which requires prompt evaluation and management. Failing early diagnose and late treatment for this situation is damaging the leg and foot functional status. This will lead to permanent disability for patient.
Key Words: Leg and Foot Compartment syndrome; Contrast dye; Extravasation

Evaluating Postoperative Medical Care: Assessing Renal Failure Post CABG

Varisha Madni, Nausheen Kasam, Saulat Fatimi , Majid Khan , Hina Inam

Introduction:

Coronary Artery Bypass Grafting (CABG) is a commonly performed cardiac surgical procedure aimed at restoring blood flow to the heart muscle. Post Operative Medical Care is a crucial aspect of Coronary Artery Bypass Grafting (CABG) procedures, immensely impacting patient outcomes and increase patient mortality and morbidity rates. This abstract addresses the incidence of renal failure post-surgery as it adheres as a pivotal quality indicator within the realm of CABG.

Objective:

This study aims to assess the occurrence and predictors of renal failure in patients undergoing CABG surgery. The objective is to monitor the patients who suffered from a renal
Failure or required dialysis post CABG.

Methodology:

Data collection spanned 2022 (January to December), shared quarterly, and comprehensively reported at year's end. Methodology included rigorous data collection, statistical analysis, and visualization, identifying best practices, and enhancing patient outcomes. Patients with already diagnosed renal failure or had creatinine level >4 were excluded from the study.

Result:

Our study demonstrated only 1% of patients who demonstrated renal failure post CABG. The percentage obtained is less than the target goal which was around 2.1%. In 2022, only 4 patients out of 349 suffered from renal failure or required dialysis.

Conclusion:

Renal failure serves as a critical indicator of postoperative care quality in CABG patients. The occurrence of renal failure is associated with prolonged hospitalization, higher morbidity, and increased mortality rates. This study emphasizes the need for close monitoring of renal function in the postoperative period and underscores the importance of timely intervention to minimize the impact of renal failure on CABG patients' recovery. Further research should focus on refining protocols and interventions to optimize postoperative renal care and enhance overall patient well-being following CABG surgery.

Characteristics of continuous v/s partial interrupted suturing technique in VSD closure

Dr Anush Ahmad Ahmadi, Prof. Dr. Najeebullah Bina, Dr Sayed Murtaza S. Hofiani, Dr. Noor Amin, Dr Saleema Gulzar, Dr. Abdullah Bahloli

Background:
Our aim is to evaluate postoperative characteristics of continuous versus partial interrupted suturing techniques in ventricular septal defect (VSD) surgical closure.

Methods:
The study included 178 children who underwent surgical closure of congenital VSD of any type with or without associated congenital heart diseases. Patients who had major associated cardiac anomalies were excluded. VSD closure surgery was done between January 2018 and February 2022. VSD closure was performed by using the continuous suturing technique in group 1 (n= 105, 58.9%) and the partial interrupted suturing technique in group 2 (n = 73, 41%). Preoperative, intraoperative and postoperative variables including VSD residual, complete heart block that needed (PPM), mortality, bypass and cross clamp time were collected from medical record files. Postoperative characteristics of both groups were reviewed and analyzed.

Results:
Early mortality occurred in 2 cases in group 1 (1.9%) and 1 case in group 2 (1.3%). There was no late mortality in either group. 1 patient in group 1 (0.9%) and 0 patients in group 2 developed complete AV block postoperatively and received permanent pacemaker implants. Aortic cross-clamp time was longer in the interrupted technique group.

Conclusion:
the present study indicates that continuous and partial interrupted VSD closure techniques have comparable success and postoperative complication rates. Thus the optimal suturing technique for VSD closure depends on the experience and the comfort of the surgeons.

Keywords: Ventricular septal defect, residual VSD, complete heart block, continuous and interrupted suture techniques.

Spectrum of findings after internal jugular vein catheterization in pediatric patients undergoing cardiac surgery in FMIC, Kabul Afghanistan

Dr. Moried Ahmad Sarwary

Background:
One of the crucial steps in the treatment of critically ill patients admitted to the intensive care unit and patients having major surgeries is the insertion of a central venous line andtherefore tremendous research work is continuously being done around the world to identify the safest route of catheter insertion with minimal complications. Decades of continuous war in Afghanistan has left the medical infrastructure of the country in a miserable situation. There is a serious deficiency of research work in the field of anesthesiology at the moment such that minimaldata is available to elaborate about safe the techniques with minimal complications to cannulate internal jugular vein, which would be indispensable to pave the way for further research and development.

Methodology:
A descriptive cross-sectional study was conducted to describe the spectrum of findings after internal jugular vein (IJV) catheter insertion in pediatric patients undergoing cardiacsurgery in a tertiary care hospital, in Kabul Afghanistan.

Results:
In our study, 100 cases of elective pediatric patients scheduled for elective cardiac surgeries were included, which in 49 cases internal jugular vein (IJV) was cannulated by ultrasound guidance and in remaining 51 cases internal jugular vein (IJV) was cannulated by traditional landmark technique. In both techniques, overall complications faced by patients were carotid artery puncture, and hematoma. It seems that complications were higher in landmark groupas compared to ultrasound guided group (13% and 1%, respectively), The carotid artery puncturewas the most frequent complication in landmark group (13%) followed by hematoma (5%).

Conclusion:
Findings in our study were similar to data presented in other parts of the world. Animportant finding was that high ASA physical status patients experienced more complications thanlow ASA level patients.

Successful surgical management of bicornuate uterus in an adolescent girl: A case report

Sheila Hares, Fahima Aram, Aryan Ayoub, Maryam Noorzai, Tayba Nabi

Introduction:

The bicornuate uterus is a congenital uterine malformation that results from the combination, canalization, and resorption of the septum during the development of Mullerian ducts. The importance of a bicornuate uterus is associated with an increased rate of dysmenorrhea, spontaneous abortion, preterm delivery and infertility. Imaging modalities including ultrasonography, hysterosalpingography and magnetic resonance imaging (MRI) are useful for the diagnosis of these anomalies. However, MRI is made the definitive diagnosis. We report the successful management of a bicornuate uterus in an adolescent girl at a specialized teaching hospital along with clinical presentations in the light of case report.

Case presentation:

We present a case of a 16-year-old girl, who has complained of dysmenorrhea for 2 years and has also been suffering from low abdominal and back pain for about 2 weeks. Her past surgical history revealed, she underwent of appendectomy and cystectomy one year ago. MRI reported two endometrial cavities with septum. Laboratory workup were normal. Exploratory laparotomy was planned and discussed with her parents about the possibility of congenital anomaly of uterus. Bicornuate vs septate uterus was identified, for which Strassman metroplasty was done. Post-operative period was uneventful. The outcome was good in one-year follow-up.

Clinical discussion:

Metroplasty, also called Strassman metroplasty, uteroplasty, or hysteroplasty, is a constructive surgery used to repair congenital anomalies of the uterus and bicornuate uterus. Strassman metroplasty is the gold standard surgical procedure for correction of a bicornuate uterus. There are several approaches for Strassman metroplasty, including hysteroscopic, laparoscopic, and open surgery; however, the preferred approach is laparoscopic metroplasty.

Conclusion: Bicornuate uterus is a rare condition among women. Therefore, physicians must hold a high index of suspicion when dealing with prolonged pelvic discomfort in premenstrual adolescents. Metroplasty via open surgery or laparoscopic approaches is a treatment of choice with a good outcome for the correction of a bicornuate uterus.

Keywords: Bicornuate uterus; Strassman metroplasty; Case report.

Primary cervical hydatid cyst: A rare case report

Nawaz Sharif Kashaaf, Mohammad Tareq Rahimi, Roohullah Hares

Introduction and importance:
Hydatid cyst is a zoonotic parasitic disease caused by Echinococcus granulosis. Occurrence in the head and neck is quite uncommon even in endemic areas. The diagnosis of an isolated cystic neck mass is still a challenge due to the presence of similar congenital cystic lesions and benign tumors in the neck. Imaging is useful, but sometimes they cannot identify a definitive diagnosis. The treatment of choice is exclusively surgical excision, combined with chemotherapy. Histopathology confirms the definitive diagnosis.

Case presentation:
We present a case of an 8-year-old boy with no history of surgery or trauma, who complained of an isolated left posterior neck mass since one year. All radiological items lead to suspect a cystic lymphangioma. Excisional biopsy under general anesthesia was done. The cystic mass was totally resected and the diagnosis was further confirmed by histopathology.

Clinical discussion:
Cervical hydatid cyst is mostly a misdiagnosed condition, majority of hydatid cyst cases are asymptomatic and vary on the basis of their locations.
The differential diagnosis includes cystic lymphangioma, branchial cleft cyst, bronchogenic, thoracic duct, esophageal duplication cysts, pseudocysts and benign tumors.

Conclusion:
Isolated cervical hydatid cyst is rarely reported yet, it must be considered in any cases of cystic cervical mass, particularly in endemic areas. Imaging modalities are sensitive in diagnosing cystic lesions, yet sometimes they cannot identify the exact etiology of the lesion. Furthermore, Prevention of hydatid disease is more favorable than surgical excision.
Keywords: Primary Hydatid cyst, cervical mass, Echinococcus.

Eye Problems among School Children: A Screening Campaign Conducted by FMIC

Marufa Muradi, Dr. Sara Fawad , Ali Safari, Wais Mohammad Qarani

Introduction:
Healthy vision plays a vital role in academic success and development. Vision is closely linked to the learning process which may schoolwork trouble. Visual deficit is a risk factor not only for altered Visiosensory development but also for overall socioeconomic status throughout life. Early detection provides the best opportunity for effective treatment of eye and vision problems. Therefore, timely screening is vital to avoid lifelong visual impairment. This study aimed to determine the spectrum of childhood eye conditions.

Purpose:
The purpose of this study was to explore the intensity of eye problems among school-going children.

Methods:
A project was implemented for the eye screening of children visiting a tertiary care hospital in Kabul during February to July 2023. Children in the schools and those who have directly visited the hospital were screened using standardized screening tool. The screening tool was developed using international literature and the reliability of the tool was done through an expert in the field. The data was transferred into Microsoft Excel and presented descriptively.

Results:
Total 521 persons were screened for vision health among which 301 (57.77%) were male and 220 (42.23%) were female. Majority of the participants were in the School-age category 285 (54.7%); 111 (21.31%) were adolescent; 58 (11.13%) were pre-school; and the remaining were in other age categories. Most of the participants 319 (61.94%) were from the district 3 surrounding community. Majority 355 (78%) were in their primary and secondary level of education. 18 patients had family history of eye conditions.
On inspection, five participants had structural abnormalities in their eyes. The screening revealed that 431 (86.2%) of the participants had some sort of eye conditions including; conjunctivitis, refractive error, scaring, glaucoma, cataract, drainage etc. among which 21 required to be visit the hospital for detailed assessment and management. While majority of the participant or their care-takers were given education on eye care; 341 (65.45%) of the participants required medication and 96 (18.43%) required eye glasses.

Conclusion and Recommendation:
This study revealed that eye conditions are common among school age children and adolescents. These conditions required timely care and management to prevent further complications. Therefore, it is recommended that there should a mandatory eye screening protocol in the communities importantly in the schools to timely identify and address issue related to eye in children.

Minimal access awake craniotomy for drainage of cerebral abscess in a patient with severe complex cardiac defects in resource-limited country: A case report

Nasir Ahmad Hakimi, Mohammad Tareq Rahimi, Ahmad Rashad Akbari, Abdul Wahab Amanat, Haseeb Rahman, Roohullah Hares, Soghra Khaliqi.

Introduction and importance:
Brain abscess is an uncommon but potentially fatal infection of the brain parenchyma that can affect 5% to 18.7% of people with uncorrected complex congenital heart defects. In management of patients with complex cardiac defects, the main concern is that they are prone to develop perioperative complications. Hence such cases are a real challenge for surgeons and anesthesiologists. In this study we have reported a well-managed awake craniotomy (Awake-Asleep-Awake) for drainage of cerebral abscess in a patient with complex cardiac defect.

Case presentation:
We present a case of a 13-year-old male patient with untreated cyanotic CHD-TOF with complete AV canal defect, who complained of right-side paralysis in the last 2 weeks; and has been suffering from headache, fever and vomiting for 25 days. Brain CT scan showed a large abscess in the left fronto-temporal lobes. Minimal access awake craniotomy with regional scalp nerve block and sedation was done and about 100-120cc thick pus was drained. The patient's paralysis improved significantly and neurological deficit ceased on 3rd postoperative day.

Clinical discussion:
Pediatric population itself is a challenge for anesthesiologists and this manifolds when associated with complex cardiac defects and neurosurgery cases.

Conclusion:
Brain abscess is expected to be more common in patients following uncorrected complex congenital heart disease in developing countries. Physicians must hold a high index of suspicion for early diagnosis and well-management of these patients with multidisciplinary approach. Minimal access awake craniotomy with or without sedation for patients with large brain abscess is a safe surgical approach.

Keywords: Awake craniotomy, cerebral abscess, Cyanotic congenital heart disease, atrioventricular canal defect, case report.

MRI findings in adult patients presenting with shoulder pain in a tertiary care hospital, Kabul, Afghanistan- A descriptive cross-sectional study

Mohammad Saboor Rastin, Zohra Kakar Rastin

Introduction:
A common reason for going to the physician is shoulder pain. After low back pain and cervical pain, it is the third most common cause of musculoskeletal complaint. Among imaging modalities in the investigation of shoulder pathology, Magnetic Resonance Imaging (MRI) is a sensitive and accurate non-invasive tool. Despite having an MRI machine in our country for many years, no data on MRI findings among our population with shoulder pain is available.

Methods:
This is an institutional-based descriptive retrospective cross-sectional study that included 154 patients who met the inclusion criteria, conducted over a period of 1 year using the data of past 7 years recorded in standardized institution database which reported by single musculoskeletal consultant radiologist through structured reporting. The findings were then statistically analyzed using the software SPSS version 25.

Results:
There were 92 (59.7%) male and 62(40.3%) female patients scanned. The age ranged from 18 to 80 years. The mean age was 42.4 years. Majority of the patients were aged 41 – 60 years. Most patients referred for examination had pathology in the right shoulder (64.9%). Rotator cuff pathology was the commonest found pathology (60.4%). The mostly involved tendon in rotator cuff was supraspinatus tendon (57.1%) and the most common injury was full thickness tear of the tendon (23.4%). Degenerative disease either involvement of Glenohumeral joint or Acromio-clavicular joint (ACJ) was the second most common found pathology (51.3%). Bursitis was the third most common pathology (33.8%).

Conclusion:
Among the patients examined, right shoulder was involved more than left, and men were affected greater than women were. Rotator cuff pathology, degenerative joint disease and bursitis were the three commonest pathologies detected on MRI. Full thickness tear of the supraspinatus tendon was the commonest pathology in rotator cuff tear.

Relationship of age and gender with cytopathological findings of thyroid nodules diagnosed by FNAC: a retrospective study

Haider Ali Malakzai, Abdul Latif Khairy, Ahmed Maseh Haidary, Hidayatullah Hamidi, Nasrin Hussaini, Sayed Hakim Ahmady and Jamshid Abdul-Ghafar.

Introduction:
Fine needle aspiration is a minimal invasive procedure aimed to obtain cellular samples for diagnostic purposes. It is utilized as a safe, simple and cost effective preoperative diagnostic technique for triaging patients with thyroid nodules. Majority of these nodules are benign with higher prevalence in females and only about 5% are malignant.

Methods:
A retrospective medical chart review study was conducted including 686 consecutive medical records of patients suffering from thyroid nodules diagnosed by FNAC in a time span of five years.

Results:
Out of 686 consecutive patients with thyroid nodules included in this study, 566 were females and 120 were males with male to female ratio of 1:4.7. Considering Bethesda system for reporting thyroid cytopathology, most of the thyroid nodules diagnosed were benign lesions with female predominance. These nodules were commonly arising in between 3rd and 6th decades of life in both the genders with mean age of 42±13 years in females and 52±15 years in males. Thyroid malignancy was commonly diagnosed in middle-age females, however in males, it was frequently diagnosed in older age with a peak at 7th decade of life. Most of the malignant nodules were solid and complex with no purely cystic nature. In both the genders, thyroid nodules were commonly arising in the right thyroid lobe (52.3%), followed by left (35.7%), isthmus (8.7%) and bilateral (3.2%).

Conclusion:
Fine needle aspiration cytology remains the modality of choice for the diagnostic evaluation of nodular lesions of thyroid. In contrast to the data reported around the world, thyroid malignancies, in our study were diagnosed in relatively older age groups with peak incidence in the 5th decade of life for females and 7th decade for males.

Keywords: Age, Gender, Cytopathology, Thyroid nodules, Malignancy

Prevalence of Hypertensive Crisis and It is Risk Factors in Hypertensive Patients in One Medical Center in Kabul Afghanistan: A Cross-Sectional Study

Massouda Ehsanzada

Introduction & Objectives:
Systemic Hypertension is a common and Major health problem in the world. Which affected more than one billion people in Worldwide and is cause of 9.4 million deaths every year. Uncontrolled Hypertension is a major risk factor for HTN Crisis and other CVD (eg. IHD, Heart failure, Stroke, Renal Failure and Peripheral Vascular Disease). When SBP ≥180mmHg or DBP ≥120 mmHg it is called HTN Crisis, which is the most common cause of uncontrolled HTN in the emergency room. HTN Crisis has two types Urgency (without symptoms or relative symptoms with mild headache) and Emergency (Associated with acute target organ damage and life-threatening complications). Main objectives of this study were to identify prevalence of Hypertensive Crisis and its associated factors in one medical center in Kabul.

Methods & Materials:
Study design was Analytic Cross-Sectional. Sampling was consecutive & data were collected directly by interviewing with 153 patients who were hospitalized in Sardar Mohammad Dawood Khan Teaching Hospital during 1-year period from Jan to Dec 2021. Data were entered into SPSS program & analyzed.

Results:
Among 153 Hypertensive patients the prevalence of HTN Crisis were 34% (52/153), among these people 21 patients (40.4%) were Urgency and 31 patients (59.6%) were Emergency. They most common symptom of Emergency was headache (N=18, 58.1%. Among these 153 HTN patients, 86 patients (56.2%) were Men and 76 patients (43.8%) were women. Most of patients in HTN Crisis group were men (N=32, 61.5%). Mean age in HTN Crisis group was 51y (SD=13.8), Regarding education, 40 patients (76.9%) were illiterate, however when compared to HTN group the difference was not significant (OR=0.8). 43 HTN Crisis patients (82.7%) had not taken their medicines regularly (OR=1.6), 29 patients (55.8%) did not follow low-salt, low-fat diet; however, low salt and low-fat diet has protective role in HTN crisis (OR=0.3). Most HTN Crisis patients lived in rural areas in comparison to urban areas (51.9 % vs 48.1% respectively); however, living in rural areas was protective (OR=0.7). 12 patients (23.1%) HTN Crisis was Smoker (OR=1.4). Median duration of hypertension Crisis group was 2Y. 12 patients (23.1%) HTN Crisis group were Smoker (OR=1.7), and 43 patients (82.7%) in HTN Crisis group had anxiety (OR=23).

Conclusion:
In comparison with most countries in the world, in this study non-adherence to treatment in Hypertensive Crisis patients was found to be high. Associated significant risk factors for Hypertensive Crisis in this study were: non-Adherence to treatment, Anxiety, Smoking, use of high salt and fat & patient unawareness about Hypertensive Crisis and it is complications.
Key Words: Hypertension Crisis, non-adherence, associated factors, Cross-Sectional Study

Investigating the expression of CXCR4 gene in Glucose conditions with Methotrexate drug response in ALL (Nalm-6)

Dr Lemarudin Qiami, Dr. Mahtab.Sayadi, Dr. Gholamreza Anani Sarab, Dr M. Sajadi , Dr Friba Hashemy, Dr Ah Maseh Haidary

Introduction and purpose:

(ALL) Acute lymphoblastic leukemia is one of the most common progressive cancers, which is seen in approximately 80% of children. Diabetes is a metabolic disease that can cause cancer. In diabetic patients, increased production of glycosylated end products and binding of these products to their receptors on the surface of cells, activation of cell signaling pathways and induction of expression of genes affected by hyperglycemia such as c-Myc, A20 and Heme-oxygenase-1, oxidative stress following DNA damage. Stranding and increased oxidation of DNA bases occur. CXCR4 is widely expressed on different tissues of the body and its increase in malignancies leads to resistance to treatment. Also, an increase in the receptor has been reported in diabetic patients. In this, the amount of CXCR4 expression and the survival of acute lymphoblastic leukemia cells were investigated in glucose conditions.

Materials and methods:

In this study, Nalm-6 cells were placed in hyperglucose environment for 10 days and for further studies, they were divided into four groups including control cells, control cells treated with methotrexate, glucose cells and cells Glucoses treated with methotrexate were divided. The survival of cells in four groups after a 48-hour incubation period was checked by MTT method and the expression of CXCR4 gene mRNA was checked by qRT PCR method and cell cycle analysis by flow cytometery method using PI dye. The results were analyzed using statistical analysis.

Findings:

The group of control cells treated with methotrexate (MTX) showed 45% and the group of glucose cells treated with methotrexate (G+MTX) showed 82% survival. CXCR4 mRNA expression in the glucose group was 25 times higher than the glucose-free group (control). In cell cycle analysis, cells treated with MTX in both glucose and non-glucose groups entered the G1 phase and the number of S and G2 phase cells decreased. The proportion of glucose group cells showed a significant increase in G2 and S phase compared to the control group.

Conclusion:

There seems to be a direct relationship between increased CXCR4 expression and increased resistance to methotrexate compared to the control group in acute lymphoblastic leukemia cells under hyperglucose conditions.

Keywords: diabetes, cancer, methotrexate, CXCR4, cell cycle.

Poster Presentation

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Prevalence of sleep paralysis and its related factors among the students at RANAUniversity-Analytic Cross-sectional study

Shakira Peerzada, Frishta Ameri

Introduction:
Sleep paralysis is a repeated inability to move the body when starting to sleep or when waking up,which lasts for several seconds or minutes. This incident caused significant clinical distress and this incident cannot be explained by other sleep disorders, mental disorders, health conditions, medication, or drug use. According to sex, marital status, employment status, place of residence, education, sleep status, sleep time, personal habits, family history and the use of addictive substances with the prevalence of sleep paralysis, which itself can explain the solution, the purposeof this research is to investigate Prevalence of sleep paralysis and its related factors among university students.

Method:
This Analytic cross-sectional study was conducted in the year 2021 among the students at RANAUniversity. Data collection was done in the form of face-to-face interviews and questionnaires bythe participants. 375 people have participated in this study. Frequency, percentage, average limit,standard deviation, cross tab, and Chi-Square test were used for analysis.

Results:
The findings of this research show that among all the participants, 59.8% of them had experiencedsleep paralysis at least once in their life. The value (p=0.068) showed that there is no significant relationship between sleep paralysis and gender, and the prevalence of sleep paralysis is relativelysimilar in both sexes. While the experience of sleep paralysis was high in the age range of 22- 24years. The value (p=0.0003) shows that there is a significant relationship between civil status andthe prevalence of sleep paralysis. Single people had more sleep paralysis than married people. The value (p=0.0019) shows that there is a significant relationship between having and not having a task(job) and the prevalence of sleep paralysis, most of the students who had no task(job) other than their studies experienced more sleep paralysis. The results of this research show that sleep paralysis is common among students and most students have experienced sleep paralysis repeatedly in their lives. The obtained value (p=0.002) shows that there is a significant relationship between sleep time and the prevalence of sleep paralysis. And most of the students experienced sleep paralysis when falling asleep. Also, the obtained value (p=0.0002) shows that there is a significant relationship between sleep status and the prevalence of sleep paralysis. Most students have experienced sleep paralysis while sleeping on their back. The value (p=0.006) shows that there is a significant relationship between the family history of sleep paralysis and the prevalenceof sleep paralysis. And most of the students who experienced sleep paralysis were those who hada family history of sleep paralysis.

Conclusion:

As a result of this research, we found that sleep paralysis is common among students. Almost bothsexes had experienced sleep paralysis in the same way, during this research we found that single people experienced sleep paralysis more than married ones and non-duty students experienced sleep paralysis more than those with duty. Sleeping on the back was identified as the cause of sleepparalysis. Sleep paralysis was related to time to fall asleep and having a family history of sleep paralysis, while it was not related to drug use.

Understanding of Valoctocogene Roxaparvovec (Roctavian) as a Breakthrough Gene Therapy for Hemophilia Type A

Sanaullah Safi, Hedayaturahman Habibzai, Sayed Tariq Pachakhan

Introduction:

Hemophilia is a hemorrhagic disease characterized by the absence or deficiency of clotting factor VIII (hemophilia A) or clotting factor IX (hemophilia B), and hemophilia C or factor XI deficiency. It affects 1 in 5,000 living males, 1 in 40,000 live males, and 1 in 100,000 live births worldwide (Hemophilia A, B, and C). Emicizumab is a monoclonal antibody that bridges activated factors IX and X to perform the duties of activated factor VIII when it is absent, restoring hemostasis. Intravenous infusion of exogenous FVIII is the current gold standard in hemophilia A treatment. Prophylactic coagulation factor replacement has been shown to reduce arthropathy, decrease the frequency of bleeds, and improve quality of life. Gene therapy for hemophilia involves targeting hepatocytes, allowing for long-term expression of defective FVIII while maintaining stable plasma FVIII concentrations. The first gene therapy for hemophilia A is Roctavian. Valoctocogene roxaparvovec, the active ingredient in Roctavian, is based on an adeno-associated virus (AAV) that has been altered not to infect people. Roxaparvovec was granted conditional marketing authorization in the EU to treat severe hemophilia A in adults without FVIII inhibitors and AAV5 antibodies.

Methodology:

The paper discusses gene therapy's use to treat hemophilia A. Specifically, it focuses on the use of Valoctocogene Roxaparvovec (Roctavian), which is based on an adeno-associated virus (AAV) that has been altered not to infect people. The paper also mentions other gene therapy candidates for hemophilia A, such as SPK-8016. The methods used in the paper include a literature review, bio render, and analysis of clinical trials and studies related to gene therapy for hemophilia A.

Result:

The paper discusses the use of Valoctocogene Roxaparvovec (Roctavian) as a breakthrough gene therapy for hemophilia A. It also mentions other gene therapy candidates for hemophilia A, such as SPK-8016. The paper provides information on the prevalence of hemophilia A and the current treatment options available. It also discusses the benefits of gene therapy for hemophilia A, such as the long-term expression of defective FVIII while maintaining stable plasma FVIII concentrations. However, the paper does not provide any specific results of clinical trials or studies related to gene therapy for hemophilia A.

Conclusion:

Hemophilia is a hemorrhagic disease characterized by the absence or deficiency of clotting factor VIII (hemophilia A) or clotting factor IX (hemophilia B), and hemophilia C or factor XI deficiency. Hemophilia A affects 1 in 5,000 living males. Hemophilia A is currently treated with regular intravenous injections that carry a risk of FVIII inhibitor development and poorly influence patient quality of life. With the maintenance of steady-state plasma FVIII concentrations, long-term expression of the defective FVIII is made possible in hemophilia A patients treated with gene therapy, minimizing bleeding episodes over the course of the patient's lifetime and lessening their disease burden. Gene therapy for hemophilia involves targeting hepatocytes, allowing for long-term expression of defective FVIII while maintaining stable plasma FVIII concentrations. Valoctocogene roxaparvovec is the first gene therapy for hemophilia A, and it's based on an

adeno-associated virus (AAV) that has been altered not to infect people. Roxaparvovec was granted conditional marketing authorization in the EU to treat severe hemophilia A in adults without FVIII inhibitors and AAV5 antibodies.

Reinfection with SARS-CoV-2 in Afghanistan: A case study

Hasamuddin Sayedi, Sayed Tariq Pachakhan, Shahid Ullah Zadran, Abdullah Sahar, Ahmad Mujtaba Barakzai

Introduction:

Background: One of the critical concerns about the COVID-19 pandemic caused by SARS-CoV-2 is how long the host is protected from reinfection after the first infection. Here we report an individual with two instances of SARS-COV-2 infection.

Methods:

A 26-year-old man who has a resident of Kabul, Afghanistan, presented to the Afghan Japan Communicable Diseases Hospital on two occasions with symptoms of viral infection and had RT-PCR-confirmed SARS-CoV-2 infection on 16/06/2020. Fourteen days after the initial test, the patient tested positive, again confirmed by RT-PCR results on 30/06/2020, in the patient's isolation, symptoms determined he continued to feel well. However, after 91 days, on October 14, 2020, he tested positive for reinfection to SARS-CoV-2. ELISA (enzyme-linked immunosorbent assay) was performed to detect antibodies in the blood

Results:

A 26-year-old patient was reported with two SARS-CoV-2 positive test results within 91 days. The first positive test was reported on June 16, 2020, and the second positive test (reinfection) was reported on October 14, 2020. An immunoassay analysis in the second infection showed a positive result of IgG and IgM that confirms the availability of disease in the patient's body. It was found that the second infection was symptomatically more severe than the first infection.

Conclusion:

Based on the results obtained from RT-PCR and Immunoassay analysis, we found that the patient had two positive SARS-COV-2 tests. However, the genetic confirmation of the spacemen obtained from the first and second infections remains unknown.

Evaluation of Anticancer Potential of N(4)-Alkyl Substituted 5-Methoxyisatin Thiosemicarbazones: Synthesis, Characterization and Molecular Docking.

Upendra Chaudhary, Vijay Gurung, Sayed Tariq Pachakhan, Jhashanath Adhikari Subin, Yuba Raj Pokharel and Paras Nath Yadav

Introduction:

(Z)-N-ethyl-2-(5-methoxy-2-oxoindolin-3-ylidene)hydrazine-1-carbothioamide (MeOIstEt) and (Z)-2-(5-methoxy-2-oxoindolin-3-ylidene)- N-methylhydrazine-1-carbothioamide (MeOIstMe) were synthesized and subjected to elemental analysis and various characterization techniques viz. IR, 1 H NMR, 13C NMR, UV-Vis and HRMS. The synthesized N(4)-alkyl substituted thiosemicarbazones were evaluated for their anticancer activity against various cancer cell lines like breast cancer (MCF-7), skin cancer (A431) and lung cancer (A549). In micromolar concentrations, the synthesized compounds exhibited moderate anticancer activity (IC50, 6.59-36.49 µM). The compound MeOIstEt was more effective than MeOIstMe against A549 and MCF-7 cell lines, whereas compound MeOIstMe was more potent against A431 cell lines. From flexible receptor molecular docking calculations in a hydrated environment, one of the compounds showed better binding affinity than one FDA approved drug. The insights from computational studies have strengthened the experimental findings and vice-versa. This work demonstrates the role of multiple approaches in finding better drug candidate with efficient anti-cancer properties

Methodology:

Density functional theory (DFT) for quantum mechanical calculations, CP2K software suite for implementing DFT, IR, 1H NMR, 13C NMR, UV-Vis and HRMS for various characterization techniques , ADFR suite for molecular docking studies, CASTp server for locating the active site of receptor proteins and Protein Structure Analysis and Verification Server for evaluating protein structure using ERRAT and PROCHECK programs.

Result:

Two thiosemicarbazones, MeOIstEt and MeOIstMe, were synthesized and characterized. In vitro tests against cancer cell lines showed moderate anticancer activity (IC50: 6.59-36.49 µM). Computational analysis revealed MeOIstEt's potential as a biologically active compound with superior binding affinity than an FDA-approved drug. Non-covalent interactions in the receptor-ligand complexes were determined, and ADMET predictions showed acceptable properties. Further in vitro experiments and in vivo trials are needed, along with molecular dynamics simulations for stability analysis. The study demonstrates the potential of computational techniques in therapeutic drug research.

Conclusion:

In conclusion, the synthesized thiosemicarbazones, MeOIstEt, and MeOIstMe exhibited moderate anticancer activity in vitro against various cancer cell lines. In silico investigations suggested MeOIstEt's potential as a biologically active compound with superior binding affinity compared to an FDA-approved drug. The receptor-ligand complexes displayed atomic-level non-covalent interactions, and ADMET predictions indicated acceptable properties. Further in vitro experiments with different cell lines and in vivo trials are warranted. Additionally, functionalization of the compounds may enhance their binding with the target receptor, improving their efficacy as potential cancer drugs. Molecular dynamics simulations are being

pursued to analyze complex stability. This study highlights the value of computational techniques in tandem with experimental data to advance therapeutic research against diverse diseases.

Role of NONO Gene from DBHS Complex and its Interaction with PIN1 in Cancer

Sayed Tariq Pachakhan, Hasamudin Sayedi

Introduction:

Paraspeckle are sub-nuclear bodies, made from the interaction of non-coding RNA and DBHS complex. DBHS comprises p54NRB/NONO, PSPC1, and PSF/SFPQ proteins. Each protein of the DBHS contains RRM1/2, NOPS, and the Coiled-coil domain. In DBHS complexes, NONO protein is involved in breast, prostate, and malignant melanoma progress. NONO gene is engaged in biological processes, including RNA splicing and editing, DNA unwinding and repairing, and gene transcription. NONO interacts with SFFPQ and PSPC1 in the DBHS heterodimers and homodimers. NONO can also interact with Sterol regulatory-element binding proteins (SREBPs) and stabilize them. (SREBPs) activate genes encoding enzymes for the biosynthesis of fatty acid and cholesterol in breast cancer. PIN1 and SUPT5H are oncogenic proteins; PIN1 has two domains WW and PPIase domain. NONO and SUPT5H interact with the WW domain of the PIN1 protein, which induces the PPIase domain and promotes cancer. PIN1 stabilizes NONO, and SUPT5H, contributing to breast cancer cell proliferation, migration, invasion, cell cycle, and apoptosis. Silencing NONO, PIN1, and SUPT5H can suppress tumor growth.

Methodology:

The methodology is based on a comprehensive literature review and research papers. Western blot, PCR, cell culture, and protein-protein interactions are used to investigate the molecular and cellular mechanisms. These techniques offer valuable insights and robust data for the study's objectives.

Result:

paraspeckle nuclear body complexes involving three proteins and non-coding RNA. DBHS proteins (NONO, PSPC1, FSP) have multifunctional roles in transcription, splicing, and DNA repair. NONO and PSPC1 show distinct interactions with transcription factors, nuclear receptors, and gene regulation. Elevated NONO and related proteins observed in breast cancer and malignant melanoma. PIN1 stabilizes NONO and SUPT5H, and silencing these proteins decreased tumor growth

Conclusion:

NONO involves RNA splicing, DNA repair, and gene transcription. NONO interacts with SFPQ and PSPC1 in the DBHS and stabilizes (SREBPs), promoting fatty acid and cholesterol biosynthesis in cancer. PIN1 and SUPT5H interact with and stabilize NONO and SUPT5H, affecting breast cancer cell behaviors. Silencing NONO, PIN1, and SUPT5H significantly decreases tumor growth and potential therapeutic targets.

The Role of Iron-Based Nanoparticles in Enhancing the Efficiency of Biohydrogen and Biobutanol Production by Clostridial Strains

Sayed Tariq Pachakhan, Hasamuddin Sayedi, Irshad Arshad, Shahidullah Zadran

Introduction:

The depletion of non-renewable fossil fuels has caused a global energy crisis and environmental pollution. Hydrogen and biobutanol offer cleaner, high-energy potential renewable sources (122 kj/g). Nanoparticles and Clostridial microorganisms play a crucial role in their production. Iron (Fe) nanoparticles enhance hydrogenase enzyme activity, benefiting hydrogen production. Factors like nanoparticle size, concentration, and substrate influence biohydrogen and biobutanol production. A multi-active site in Clostridium's amylase enzyme boosts biofuel rates. Exploring these avenues can lead to a sustainable future, capitalizing on hydrogen and biobutanol potential while mitigating fossil fuel depletion consequences.

Methodology:

The methodology involves reviewing research on hydrogen and biobutanol energy production using nanoparticles and Clostridial bacteria. Fe nanoparticles will be synthesized, and hydrogenase activity will be assessed. Batch and continuous fermentation will optimize biohydrogen and biobutanol production. Protein sequence analysis will identify amylase enzyme multi-active sites. The study aims for sustainable energy sources while mitigating non-renewable fossil fuel consequences.

Result:

Alternative energy sources are crucial to address environmental and health concerns from fossil fuel use. Biofuels offer promise, reducing reliance on finite fossil fuels and mitigating their harmful effects. Nanoparticles play a key role in enhancing hydrogen and biobutanol production. Fe-based nanoparticles impact metabolic pathways, improve electron transfer, and speed up biofuel production. Optimizing parameters like concentrations, sizes, and substrates is essential for maximum biohydrogen and biobutanol output. Microorganisms like amylolytic Clostridium sp. strain BOH3 improve production rates from food waste. Utilizing waste for biofuel production promotes a clean environment, addressing energy needs sustainably.

Conclusion:

In conclusion, using fossil fuels harms the environment and human health, and a new energy source is necessary to meet the world's energy demands. Biofuels are a viable alternative, as they can decrease our reliance on fossil fuels and mitigate the limitation of their finite resources. Nanoparticles, particularly Fe-based ones, have been shown to significantly impact the production of biofuels such as hydrogen and biobutanol by enhancing microbial metabolic activity. Different substrates, such as food waste, can be used to produce biofuels, and effective microorganisms like Clostridium sp. strain BOH3 can increase the production rate and quality. Collecting waste food to produce biofuel energy is an effective method for maintaining a clean environment.

Impact of SARS-CoV2 on Diabetes patient

Abuzar Shinwari, Rasool Khan Hayat

The present pandemic of SARS-CoV-2 coronavirus disease 2019 (CVID-19) is particular challenge to Diabetes patients. May experience mild to more severe illnesses, organ failures, comorbidities and High risk of mortality due to pulmonary and cardiac involvement.

This (descriptive-analytic) of the current study was carried out to investigate the effect of Covid-19 on patients with Diabetes in Afghan Japan Communicable Disease Hospital, Kabul, Afghanistan. We reviewed medical records of 102 patients who were hospitalized with Covid-19 between March – July in three months 2021. Data was collected on Diabetes status, Comorbid conditions and Laboratory Results. The data was analyzed using SPSS 20 (IBM).

The Data analysis shows (56.86%) male with diabetes and (43.14%) female, and (70%) of patients had more than 50 years age. With high mortality rate of (49%), only (1%) patients were in normal diabetes stage. The most common conditions of died were Acute Respiratory Distress Syndrome ARDS (82%), Cardiac Pulmonary Arrest (CPA) (82%), Pneumonia (70%), Respiratory Failure (54%), Sepsis (46%), and Chronic obstructive pulmonary disease (COPD) (6%).

Diabetes patients who are infected with SARS-CoV-2 are at higher risk of mortality. Our finding suggested that diabetes did not significantly impact the prognosis of Covid-19 patients but negatively affect their clinical course. Should be taken to make a significant step forward in the care for Diabetes patient. Its suggested for further research to increase patient sample size and HbA1C results.

Covid-19 Epidemiology in Kabul Afghanistan

Abdul Rafey Popalzai, Ubaidullah Niazi

On 31 December 2019, a new coronavirus was discovered in China, which is a respiratory disease and has spread to almost all the world including Afghanistan.
The aim of this study was to describe the mentality/awareness of people, signs and symptoms they have experienced, how they followed medical protocols to protect themselves and others against Covid-19.
A cross-sectional survey was conducted on 307 respondents. Data were collected by a valid and reliable questionnaire including ten questions from different types of people in different places in Kabul from (2021-08-12 To 2021-10-25), after collecting the data IBM SPSS Statistics 20 was used for the analysis of the data.
We found that (13.3%) of the respondents are still not aware of Covid-19, most of the respondents have experienced cough (67.4%), fever (79.8%), body pain (68.1%), loss of taste or smell (49.2%), and headache (59.3%). The study found that (39.7%) of participants were not wearing masks, (76.5%) didn't keep social distance and (25.4%) of them were not washing their hands. It also found that (40.2%) of the respondents were vaccinated which (57.6%) of them were between 21-35 years of age.
Covid-19 is a highly infectious disease that is spreading rapidly around the world affected more than 200 million people and more than 4 million people died due to Covid-19.
Most people still do not know about Covid-19, do not follow medical protocols, and most of them have not been vaccinated. There is no specific treatment for Covid-19, it is very important to protect yourself and others against this infectious disease.

Iron Deficiency Anemia in AIM at FMIC

Dr Ali Bigzaad

Introduction:

The most severe consequence of iron depletion is iron deficiency anemia (IDA), and it is still considered the most common nutrition deficiency worldwide. Although the etiology of IDA is multifaceted, it generally results when the iron demands by the body are not met by iron absorption, regardless of the reason. So our aim is to discover IDA prevalence in Adult Medicine Department of FMIC.

Methods:

This a cross-sectional study designed to determine the prevalence of IDA among patients admitted in adult internal medicine ward of FMIC hospital by analyzing blood samples, serum ferritin (SF), total iron binding capacity (TIBC), and complete blood pictures (CBC) from January to August, 2023. Numerous sources were extracted to discover the IDA patients from medical records, monthly report and hospital database. Besides all patients who admitted daily were asked about risk factors and causes.

Results

Twelve percent of patient had Hb lower than 7gr/dl(severe anemia), 34 % of patients had Hb of 7-9.9gr/dl (moderate anemia) and 53%had Hb of 10-11 gr/dl(mild anemia).

According to gender 69 percent were female. And most of women were in reproductive age (15-49yr). Among women of childbearing age, iron deficiency was more likely in those who are minority, low income, and multiparous.

Conclusion:

IDA is highly prevalent and considered as serious health problems among clients in FMIC. Our findings showed that more than half of the female patients were found to be IDA than males. Most of cases IDA were occurring due to the lack of healthy iron-rich foods in daily food. Parasitic infection, H pylori Gastritis, vaginal bleeding and Hemorrhoid were identified as the significant risk factors increasing the prevalence of IDA among patients. To prevent the prevalence of IDA among students, a proper health education to increase knowledge about anemia and its causative factors, benefits of taking iron-rich food, and avoiding unhealthy food and drink intake is needed.

Challenges of foreign languages on food labels in Afghanistan

Sayed Mohammad Naim Khalid and Sayed Samiullah Hakimi

Introduction:

Food labels serve as a crucial source of information for consumers, facilitating informed choices about the products they purchase. In Afghanistan, where imported packaged foods play a significant role in meeting consumer demands, the presence of foreign languages on food labels poses a considerable challenge. This article explores the challenges faced by Afghan consumers due to foreign languages on food labels, with a specific focus on the identification of haram (forbidden) ingredients and the absence of halal certification.

Methodology:

To understand the extent of the problem, a comprehensive study was conducted on 200 imported packaged foods with labels in Afghanistan. The methodology involved identifying the language used on the food labels and determining the country of manufacture. Additionally, the research aimed to identify any haram ingredients present in the products and assess the availability of halal certification on the labels. The sample selection was conducted using a systematic approach to ensure a representative range of imported food products available in the Afghan market.

Results:

The analysis of the food labels revealed several significant findings. Firstly, it was observed that a large proportion of imported packaged foods in Afghanistan had labels primarily in foreign languages. The most commonly found languages on these labels included Chinese, Turkish, Urdu, Russian, and English. Unfortunately, only a minimal number of products had any information in local Afghan languages, such as Pashto or Dari.

Furthermore, the study identified the presence of haram ingredients in some of the food products. Ingredients like gelatin, pepsin, and rennin were frequently found, which can be problematic for consumers who adhere to halal dietary practices. The absence of clear labeling in local languages hinders consumers' ability to identify and avoid such haram ingredients.

Moreover, the majority of the imported food products lacked halal certification or the presence of a halal logo on their labels. This absence creates a lack of confidence and trust among consumers who rely on these certifications to ensure that the products meet their religious and dietary requirements.

Conclusion:

The challenges posed by foreign languages on food labels in Afghanistan are substantial and demand attention. Food labels are vital for ensuring transparency, promoting consumer awareness, and facilitating informed choices. Afghan consumers deserve access to clear and understandable information about the products they purchase, especially regarding the presence of haram ingredients and adherence to halal standards.

To address these challenges, it is imperative for the Afghan government to take action. Firstly, there should be a mandate requiring all imported food products to include labels in local Afghan languages. This step would empower consumers and enable them to understand the contents and potential haram ingredients in the products they consume. Additionally, the government should establish clear halal regulations or

standards for imported food products. These standards can guide importers in ensuring their products meet halal requirements and enable consumers to make informed choices based on reliable certification.
By addressing the challenges of foreign languages on food labels and ensuring halal compliance, the Afghan government can protect consumer rights, enhance public health, and promote a transparent and trustworthy food market. It is essential for all stakeholders, including food businesses, regulatory authorities, and consumer advocacy groups, to collaborate and work towards practical solutions that prioritize the needs and preferences of Afghan consumers.

The Prevalence of Dental caries on 1st permanent molar teeth among teenage boys and girls in FMIC Hospital, Kabul, Afghanistan: A Cross-Sectional Observational Study

Hedayatullah Nayab

Introduction:
Caries in first permanent molar is most common disease due to early eruption, people consider it as deciduous teeth, which is not and most of teenage loss their first permanent molar that is undeniably the most important unit of mastication, the loss of a first permanent molar in a child can lead to changes in the dental arches, that can be traced throughout the life of that person, Dental caries has a significant impact on the general health and development of children, it is now well established that oral health is an essential component in defining overall health and quality of life.

Objective:
this study aimed to upgrade the knowledge of people regarding to the importance of their teeth maintenance and extraordinarily their first permanent molars. Moreover, estimating the prevalence of dental caries among youths aged 7 to 18 years old to determine most venerable age.

Method:
this was a cross-sectional study including 213 children aged 7 to 18 years old attending for check-up during the date of 06/February/2023 to 31/May/2023 the dental check-up was done by using single use kits also we gifted a tooth brush and one tube toothpaste for each of them.

Results:
Regarding to our survey from 213 persons that we checked their teeth, 124 persons (58.1%) had dental caries on the first permanent molar, fortunately 89 persons almost (41.7%) hadn't caries.

Conclusion:
more than half of our survey attenders had first permanent molar caries, the mentionable point is this, we taught them, when and how to brush, floss and other necessary oral hygiene tips which is good for oral and dental health also effects the whole body, in prevalence of caries there is no significant unbalancing change between male and female.

Keywords: Prevalence of Dental caries in Kabul, first molar.

Factors associated with Total Cholesterol levels among Afghan people aged 18-69 years old: Evidence from a National Survey

Giti Azim, Mohammad Hasher Azim, Hosna Hamidi, Bahara Rasoly

Objective:
To determine associated factors of total cholesterol (TC) levels in people aged 18 to 69 years old in Afghanistan based on NCD STEP Survey 2018

Method:
This was an analytical cross sectional study design using data from the national survey of Non-Communicable Disease STEPs (NCD STEPS) survey in Afghanistan. The total sample size in original study was 3,972 aged 18-69 years old with multi-stage cluster sampling method. Total cholesterol was the outcome variable for this study while age, gender, education, marital status, salt intake, hypertension, physical activity and BMI (overweight and obesity) were the independent variable. Simple linear regression and multivariate linear regression were performed using weighted analysis to find the associated factors for the outcome variables using weighted survey setting.

Findings:
The result of bi-variate linear regression analysis indicates age, marital status, high blood pressure and BMI are positively associated with TC levels while education, salt intake, and any type of physical activity are negatively associated with the Total Cholesterol levels (p-values<0.05). While controlling for all variables in multivariate linear regression; positive association was observed between total cholesterol and higher age categories, ever married people, people with hypertension, overweight and obese people while the association with negative in males compared to females (p-value<0.05) with all other variable not being significant in the model.

Conclusion:
The finding of this study shows that total cholesterol increases in people of older age categories, married people, people with hypertension, overweight and obesity; while decreases in people with higher education categories, people who always take salt and people who do physical exercise.

Measles outbreaks in Afghanistan; challenges and recommendations

Abubakr Yosufi, Hedayatullah Ehsan, Ali Maisam Eshraqi

Background:
In past 2 years, multiple large measles outbreaks with large number of fatalities have been reported in Afghanistan. Despite having a history of measles outbreaks, the concurrent presence of measles outbreaks, severe humanitarian crisis and lack of health care programs funding, put a huge burden on the countries already weak and fragile health care facilities. Although efforts such as 2022s mass vaccination campaign to decrease measles cases in Afghanistan, multiple measles outbreaks are still reported with a high number of mortality. Several factors such as extreme poverty, covid-19, civil unrest, conflicts and health system corruption, have hindered total eradication of measles. To contain the transmission and spread of the disease inside Afghanistan and outside through migration, Afghans need immediate international aid for a regular measles vaccination campaign from time to time and awareness effort to thoroughly eliminate the disease and its possible transmission globally.

Objective:
to comment on the current challenges associated with measles in Afghanistan and make recommendations

Methodology:
it is a review article

Results:
not applicable

Conclusion:
decades of severe poverty, conflict, civil unrest, food insecurity and lack of fundamental health facilities has predisposed Afghanistan to numerous diseases outbreaks including measles. COVID-19 pandemic also contributed to the escalation of the situation and the halt of funding for Afghanistan's health care facilities and programs such as "SEHATMANDI project" can probably lead to the county's health system collapse. Thus Afghans need immediate international aid for constant measles vaccination campaign and awareness response to thoroughly contain the disease and its transmission to other countries through migration.

A Rare Case of Chronic Gastric Ischemia with Gastric Ulceration and Anemia

Asmatullah Sapand, Rukhsar Qamar, Tahseen Saba

Introduction:

We present the patient case of a 42-year-old woman with clinically significant abdominal pain and repeated episodes of gastrointestinal bleeding, who was ultimately diagnosed with chronic gastric ischemia with recurrent gastric ulcers. Current clinical literature suggests that gastric ischemia is more common than previously thought. A higher degree of suspicion for such relatively rare presentation may be required in the clinical setting.

Background:

Gastrointestinal mesenteric ischemia is a reduction in intestinal blood flow, either acutely or secondary to chronic hypoperfusion of the small intestine, and typically presents in patients with multivessel mesenteric stenosis or occlusion. Because of the redundant blood supply of the stomach, gastric ischemia with ulceration is a rare manifestation of mesenteric ischemia.

Objective:

To highlight the multidimensional presentations of chronic gastric ischemia and to emphasize the need for a higher index of suspicion, when patients present with recurrent gastric ulcerations in relevant and related vascular territories.

Case Report:

A 66-year-old woman initially presented to our health care center with symptoms of abdominal pain, passage of black tarry stools, and early satiety. She was admitted for acute anemia and suspected lower gastrointestinal bleeding. The first esophagogastroduodenoscopy (EGD) showed several nonbleeding ulcers and pale-appearing mucosa. Meanwhile, stigmata of recent bleeding were evident. A 19-mm ulcer was seen on the greater curvature of the stomach, as were 2 additional ulcers at the antrum and 1 ulcer on the lesser curvature of the stomach. She was taken under treatment with proton-pump inhibitors with plans to repeat EGD and to follow-up her biopsy results as an outpatient.

Two months later, she was readmitted with symptoms of severe diarrhea and early satiety. CT scans of the abdomen showed severe atherosclerosis of the mesenteric vessels and sigmoid colitis. The second EGD revealed moderately erythematous mucosa throughout the stomach with no ulceration. Biopsies were negative for Helicobacter pylori, celiac disease and malignancy. Several nonbleeding angioectasias were seen in the greater and lesser curvatures of the stomach. A colonoscopy revealed nonbleeding, ulcerated mucosa in the ascending colon. She was discharged to outpatient follow-up.

Five months after the initial presentation, she again presented with melena and one episode of hematemesis. The third EGD showed recurrent ulcers in the gastric body, antrum and prepyloric region. After consulting with the vascular surgery department, a mesenteric artery duplex ultrasound was performed to investigate

chronic ischemia as the source of recurrent gastric ulceration. Duplex ultrasound showed significant stenosis in superior mesenteric (SMA) and inferior mesenteric (IMA) arteries of more than 70%. The patient subsequently had mesenteric angiography, which showed high-grade focal stenosis at the origin of the SMA, which was confirmed with intravascular ultrasound, as well as stenosis of the IMA and heavy calcification in the origin of the celiac artery (CA). The SMA was treated with balloon angioplasty and a covered metal stent. Dual antiplatelet therapy was continued after the patient was discharged.

The patient was hospitalized for the fourth time for melena and anemia 5 months after initial admission. Mesenteric angiogram showed the SMA was patent. The fourth EGD revealed large areas of pale gastric mucosa with ischemic appearing geographic ulcers in the body of the stomach (Figure 1A-C).

Biopsies showed histologic evidence of gastric ischemia (Figure 2A-D). Treatment with additional stent placement in the celiac artery was discussed and ultimately deferred because of the high risks associated with further intervention.

Discussion

Mesenteric ischemia either acute or chronic is caused by blood flow that is insufficient to meet the metabolic demands of the visceral organs. The severity of ischemia and the type of organ involved depend on the affected vessel and the extent of collateral-vessel blood flow. More than 90% of cases of chronic mesenteric ischemia are related to progressive atherosclerotic disease that affects the origins of the visceral vessels. In 40 to 50% of cases mesenteric ischemia is associated with embolic occlusion, 20 to 35% cases are caused by thrombotic occlusion of the previously stenotic mesenteric vessel. Other causes include thrombophilia, vasculitis and low flow states. More than 70% of cases occur in females and the prevalence increases with age and in those with the history of hypertension, atherosclerosis, smoking and diabetes (1).

Gastric ischemia was first identified in 1995 with 4 cases noted in an autopsy series of 24000 patients (2). Chronic gastric ischemia can manifest as vague symptoms such as abdominal pain or angina, nausea, vomiting, diarrhea, and occult or overt GI bleeding. Chronic gastric is caused by the atherosclerosis of the mesenteric arteries, primarily of the CA and SMA. The CA is the major blood supply of the stomach and supplies the liver, spleen, pancreas, duodenal bulb and the descending duodenum proximal to the major papilla. The SMA supplies the duodenum distal to the major papilla, jejunum, ileum, ascending colon and the proximal two-thirds of the transverse colon. IMA supplies the distal one-third of the transverse colon, descending colon, sigmoid and rectum (3, 4).

Keywords: Ischemia, Atherosclerosis, Gastric Ulceration, Gastrointestinal Bleeding, Abdominal Pain, Mesenteric.

Life Saving skills enhancement through Certified CPR Courses in Health Facilities of an NGO at Rural Areas of Gilgit Baltistan, Pakistan

Mehnaz Hameed, Nawroz Bibi

Introduction:

Lifesaving skills are crucial for all the front-line health care members involved in patient care areas including community settings. Health care settings situated in the rural areas face many challenges due to scarcity of the resources that makes the lifesaving events more difficult for the front-line team. The need of developing a team equipped with the resources was felt by looking at the data of post arrest events. Several strategies were used to train the health care members of a secondary care health facility of Gilgit Baltistan Pakistan to fill the gaps, however the need of standard certification courses of resuscitation was identified through establishing a close link with the Training Centre of American Heart Association CPR certification courses in a tertiary care Hospital of Karachi Pakistan.

Objective:

To improve survival rates by maintaining effectiveness of the resuscitation events

Methods:

Following sustainable series of methods were used to prepare the team of front-line health members for certification of specific resuscitation courses in the region

1. Identify gaps through post event analysis using a tool.
2. Training instructors using a platform of Work and Study Program
3. Prepared standard operating procedures for establishing a training site under the supervision of training Centre in the rural setting of Gilgit Baltistan through close coordination.
4. Monitoring and inspection of the settings and resources through a standard checklist by the training Centre
5. Fulfillment of requirement for Basic Life support courses followed by Advance Life Support Courses
6. Monitoring and supervision through post event tools
7. Ongoing drills to maintain the skills intact.
8. Maintaining record of certified staff and reminders for renewals

Results:

As a result of this project, more than 70% staff are certified and a huge impact of the effectiveness and survival rates of the patients

Conclusion:

In conclusion, developing local resources by Health Care Organizations can help enhance capacity building of health care personnel to have the critical lifesaving skills with the huge impact on the health of the population

Improving Patient Care and Safety using Safe Care Standards in a rural setting

Mehnaz Hameed, Imtiaz Hussain

Objective:
The Safe Care standards are designed specifically to target health facilities in low- and middle-income countries. These facilities operate in challenging environments that are often defined by staffing. shortages, resource-restrictions, and inadequate infrastructure. A wide range of facilities can be assessed using these standards covering 13 Service Elements involved in Patient Care with 680Criteria. This Project was designed to implement these standards and get Safe Care Level 5 accreditation of a Health Care Facility of an NGO in the rural Areas of Gilgit Baltistan, Pakistan.

Methods:
Using Plan-Do-Study-Act (PDSA) quality improvement methodology, a multidisciplinary team was created to do a gape analysis and assess the facility's compliance against the standards and to improve compliance for required assessments to get level 5 certification. Three Assessments of the facility performed in different intervals by the internal team before the actual assessment. Based on the three assessments improvement plans developed, meetings conducted with the Head of Departments for closure of the Non compliances, financial requirements shared, and implementation initiated. In addition, all the existing policies and protocols revised by Policy Development Committee and according to the available services, almost 50-100 new policies developed. The major interventions done to comply the standards were introduction of Safety signages, Charter of Patients' Rights and Responsibilities and displaying it in the facility, Triage guidelines for Emergency and their display through standees, Barcoding system in Lab and Pharmacy for labelling of Medicines and Lab Samples, introducing inpatient medication management system, introducing Anesthesia Consent form and Surgical Time out to ensure patient safety in OR, ensuring proper flow of Laundry, CSSD and OR according to Infection Control Protocols, introduction of fall risk bands and ID Band with MR number to ensure proper Patient Identification.

Results:
The compliance in the mock Assessment was 66% and after all these interventions we got 89% Level 5 in the actual Assessment.

Conclusion:
Improvement in Quality Care and Patient Safety is possible by implementing Safe Care Standards in the Health Care Facilities.

Prevalence of Third Molar Agenesis Amongst Kabul population

Abdul Mubin Hamed, Saima Sarwary

Introduction:
While someone doesn't have a tooth or teeth congenitally in range of tooth developments age; there might be agenesis of teeth or when a tooth fails to form is called tooth agenesis. Third molar agenesis is seen globally and thought to be linked with human evaluation of jaws, as it growth and erupts as last tooth in oral cavity.

Objective:
The aim of this study is to evaluate the prevalence of third Molar agenesis amongst Kabul population.

Methods and material:
It's retrospective, statistical study which over 500 panoramic radiographs of treated patients (male and female) in three dental care centers are examined for the presence or absence of at least one third molar naturally. Radiographs are examined by a dental professional and data were analyzed with a SPSS latest version software.

Results:
Shown that more than a quarter of study population were suffering from third molar agenesis with right and left mandibular third molars were involved which they followed by maxillary third molars.

Conclusion:
Third molar agenesis is seen among majority of world population including Kabul which is linked to the growth of jaws and patients suffering from its complications specially when due to small size of jaws they formed but become impacted.

Gut Microbiota: An effective factor in Alzheimer and Parkinson's disease

Ghulam Yahya Amiry, Mustafa Ansari, Murtaza Haidary

Introduction:
Within each human gastrointestinal tract there is an exclusive combination of different communities of organisms, including bacteria, viruses, archaea, protozoa and fungi, which are collectively referred to as the gut microbiota and outnumber the total amount of human cells in the human body. The collection of these microorganisms, their genomes and the factors they produce are all part of the gut microbiome. Increasing evidence suggests gut microbiota has been found to play a role in modulating brain function and behavior through the gut-brain axis, a bidirectional communication system between the gut and the brain. There is emerging evidence suggesting a link between the microbiota and cognitive disorders such as Alzheimer's disease and Parkinson's disease.

Methods:
Herein, the newest relevant data that evaluated the effects of gut microbiota in Alzheimer and Parkinson's disease were collected from Scopus and PubMed.

Results:
The results showed that alterations in the gut microbiota have been observed even before the onset of motor symptoms in Parkinson's disease. The gut microbiota has been found to influence the production of dopamine, a neurotransmitter that is depleted in Parkinson's disease. Furthermore, certain bacterial species have been found to produce metabolites that can promote the aggregation of alpha-synuclein, a protein implicated in the pathogenesis of Parkinson's disease. Furthermore studies have shown that alterations in the composition and diversity of the gut microbiota can lead to neuroinflammation, oxidative stress, and the accumulation of amyloid-beta plaques, which are characteristic features of Alzheimer's disease. Additionally, certain bacteria in the gut have been found to produce metabolites that can directly affect brain function and cognitive performance.

Conclusion:
The gut microbiota is an effective factor in the behavior and mood changes and it also prevents the development of the nervous system diseases, such as Alzheimer, and Parkinson. The gut microbiota regulates the function of the central nervous system through the intestinal nervous system, the production of metabolites, the stimulation of enteroendocrine cells, and the immune system.

Hydatid disease in unusual locations: Easily missed conditions

Roohullah Hares, Sheila Hares, Ahmad Walid Atif

Introduction:
Hydatid cyst is a parasitic infection caused by Echinococcus granulosis. Hydatid cyst is an endemic disease and has recently become a real public health problem in developing countries. The most usual sites of hydatid cysts are the liver and lungs. Occurrences in the neck and muscles are quite uncommon even in endemic areas, and are mostly misdiagnosed conditions. Primary neck and intramuscular hydatid cysts require strong presumptive evidence for diagnosis. majority of hydatid cyst cases are asymptomatic and vary on the basis of their locations. The diagnosis of such hydatid cysts is still a challenge due to the presence of more common pathological conditions and easily missed by physicians in secondary health services. The treatment of choice is exclusively surgical excision, combined with chemotherapy. Histopathology confirms the definitive diagnosis.

Case Presentation:
In this study, we present two rare cases of intramuscular and neck hydatid cysts, primarily along with the diagnostic difficulties raised by the unusual site and discuss the clinical features and treatment options in the light of case series.

Clinical discussion:
Imaging modalities are sensitive in diagnosing cystic lesions, yet sometimes they cannot identify the exact etiology of the lesion. However, Ultrasonography is an excellent and cost-effective modality with a high negative predictive value in the evaluation of palpable superficial soft-tissue masses and hydatid cysts.

Conclusion:
Isolated cervical and intramuscular hydatid cysts are rarely reported yet, but they must be considered in any cases of cystic cervical mass, particularly in endemic areas. Although the treatment of choice in such cases is surgical excision but prevention is more favorable to fight against hydatid disease. Public health awareness through launching health education sessions at health facility and community levels mostly in rural areas by community-based approach through community health workers (CHWs), community and religious leaders concerning the features of hydatid cysts, importance of hand hygiene and properly washing fresh fruits and vegetables is more important to break the parasitic cycle.
Keywords: Primary Hydatid cysts; cervical mass; intramuscular mass; Echinococcosis.

Investigating the Determination of the Amount of Substances Based on Weight Analysis in Analytical Chemistry

Manochehr Moahed, Dr E.Thippeswamy

Introduction:

An important feature of chemistry is the determination of the weight and volume of materials in industrial and consumer products. Most of its progress is due to analytical chemistry (descriptive and quantitative analysis). The crucial issue that is at the core of analytical chemistry is the precise control of raw materials and products for better quality in the manufacturing and technical industries. Analytical chemistry is the precise identification of the constituents of a material sample, the determination and relative recognition of each of them by the processes of the chemical analysis of the descriptive analysis, as well as the determination of the quantities of each of its constituents in unit weight or volume by quantitative analysis. Explains and explains. In this article, the quantitative and descriptive analysis sections include weighting and volume analysis methods in a comparative manner that plays a major role in determining the quantities of desired materials and their results are evaluated on the basis of chemical and systematic equilibrium calculations. Much of it plays an important role in the development of science that is closely related to chemistry such as mineralogy, geology, physiology, pharmacology, and so on that used in development world and these methods are having the usages and it's good to evaluate very well.

Research Purposes:

Understanding the methods of material analysis based on gravimetric analysis in quantitative chemistry; Choosing to determine the state of materials in quantitative form in minerals and mineral substances in gravimetric analysis; Correct selection of sampling with more precision in the combination of production and technical products; Obtaining more accurate work results in product production laboratories based on determining the amount of production and technical materials; More familiarity with effective methods of material analysis based on descriptive and quantitative analysis.

Methods:

This article is based on the review method in which the collected materials are collected using the Narrative Review method. This type of method is used for comprehensive and detailed subjects. In the narrative review of this research, the summary of primary and original studies of a subject has been discussed, in which the result refers to quality instead of quantity. The most basic issues that have been studied in this research are defining the general interpretation of the subject and collecting materials in a narrative review method, which is more reliable in terms of the quality of

the study sources, in summing it up with a review of the existing background on this scientific subject. It deals with and organizes and summarizes the research done on that subject in such a way as to make the subject better understood by the audience. For this purpose, in this article, the scientific results presented on a specific topic in previous articles are summarized and analyzed.
These types of articles usually have narrative review analysis. Although the contents in the review articles are not new and have been published before, but the interpretation of the obtained results with accurate and complete citations is a kind of guidance for original written scientific articles. In this article, we have considered a review of knowledge and background information about the subject as a hypothesis. The researchers conducted on the subject have been categorized and all of them have been examined in a comparative manner and all these topics have been addressed to the best available solutions and methods.

Results:

Weight analysis is one of the methods of quantitative analysis, the basis of which is the precise determination of the substance to be received or its components (Jovinda, 2022). In other words, the basis of this method is fixed proportions, in which the substance received is in the form of a pure chemical substance, compound, or ion (Juvin, 2023).
Carrying out a weighted analysis includes the following steps. 1_ How to choose the exam sample and take it;
2- Calculating the size of the test sample (weighing it); 3- solving the test sample;
4_ depositing the desired part of the exam material; 5_ Selection of precipitator criterion;
6_ Filtering and selecting filter paper;
7_ sediment washing and selection of washing criteria; 8- Calcining or drying the resulting sediment;
9_ Final weighing of the resulting sediment; 10_ Calculate the result.

Conclusion:

Weight analysis in determining the amount of desired materials has a series of cases that play a fundamental role in determining the amount of materials. In this analysis, the findings show that the methods during which sediments and complexes are formed are in the order of interactions. They create problems. Still, the method of quantitative analysis has more applications in obtaining technical and consumer products. Through this analysis, the amount of materials is determined by the relationship between the weights of the interacting materials. The weight analysis method is generally better for determining the production point in consumer and industrial products and it is very important, that is, as much as the amount of desired materials is determined accurately, the interaction product is of excellent quality and good results in consumer and production technical products. The obtained results show that in order to get the desired result, it is necessary to determine the amount of materials by weight method of the mentioned three factors.

COVID-19 Vaccination Coverage Reporting using DHIS2 in Afghanistan, 2021- 2023

Samsor Rahat, Khwaja Mir Islam Saeed, Mir Salamuddin Hakim, Shoaib Naeemi

Background:
On February 2021, Afghanistan started the administration of the first COVID-19 vaccine for high-risk groups. The Ministry of public health received the different types of vaccines donated by COVAX. Online COVID-19 vaccination coverage platforms, such as District Health Information System-2 (DHIS2) are important for decision-makers for timely monitoring of the coverage status. DHIS2 offers an electronic platform for the collection, reporting and analysis of data.

Objective:
This study aims to introduce the importance of the online DHIS2 tool in COVID-19 coverage reporting.

Methodology:
DHIS2 is the world's largest health information system used for COVID-19 vaccination coverage reporting in Afghanistan. To avoid under-reporting, a program was designed for daily online reporting ensuring reachability at any time. The online-reporting form was developed for this program. we prepared the training material and credentials for end-users and trainings to all provincial data officers. Once the health facility reports its coverage, the provincial data entry officer accesses the system and feeds the data to DHIS2 on daily bases.

Results:
Totally, 85 accounts were created for entering data and viewers at provincial, national and implementing partners. Provincial data officers (35), provincial implementing organizations (34), and decision-makers and partners (16) were integrated with DHIS2 to enter and read daily vaccination coverage across the country. Till March 2023, 14,739,563 primary series of COVID-19 doses and 1,095,517 booster doses were reported through DHIS2 from eleven at risk-categories. Dashboards are created accordingly, with graphs generated using connections established between DHIS2.

Conclusions:
In response to COVID-19, the need for online reporting surges, for timely monitoring of COVID-19 coverage indicators, sharing data with professionals and building trust in the health system through transparency. Scaling up the online reporting from the service delivery point was recommended.

Keywords: COVID-19, Afghanistan, Coverage, DHIS2

Investigation of Cholera Outbreak in Tagab Shast Village of Zari district, Balkh Province, Afghanistan, 2022

Farhad Niazi, Aminullah Shirpoor, Khwaja Mir Islam Saeed, Shoaib Naeemi, Mir Salamuddin Hakim

Background:
On September 3rd, 2022, National Diseases Surveillance and Response (NDSR) focal point for Tagab Shast village of Zari District, Balkh reported an unexpected number of Acute Watery Diarrhea with dehydration cases.

Objectives:
This investigation aims to project descriptive features, identifying etiologic agent and transmission source of this outbreak.

Methods:
This investigation adapts the NDSR case definition on AWD to investigate this outbreak on September 3rd, 2022 in Tagab Shast village of Zari District, Balkh province. Three Stool specimen from suspected cases and two samples from water source of outbreak affected area were collected in Cary Blair transport medium and shipped to Balkh Reference laboratory for detection and serotyping of cholera bacterium through microbiological culture and growth. Data were analyzed using Epi Info V7.2.1.

Results:
Out of 490 residents of this village, 391 cases resembled with case definition (attack rate = 79.8%) in which 203(52%) were males and 188(48%) females. Vomiting 387(99%) and dehydration 382(97%) were the most prominent clinical features among patients. Two out of three stool specimen were confirmed for presence of cholera poly O1-serotype Ogawa. Furthermore, cholera O1-serotype was found in two water source samples in the outbreak area. Water source was used for drinking, washing clothes and watering livestock. Outbreak lasted for 41 days starting from September 3 - October 14 with peak recorded between September 3rd – 10th, 2022.

Conclusion:
Based on findings of this investigation, cholera outbreak was confirmed in Tagab Shast village of Zari district with high attack rate. Contamination of drinking water was the likely source of this outbreak based on detection of cholera bacterium. Chlorination of water sources and implementation of risk-informed preparedness strategy regarding community-based hygiene and sanitation approaches perhaps could help to prevent future outbreaks.

Keywords: AWD, Cholera, Ogawa, Balkh, Afghanistan

Knowledge, Attitude, and Practice of COVID-19 Vaccines in Bamyan and Daikundi Provinces, 2022

Mohammad Ibrahim Fetrat, Khawaja Mir Islam Saeed, Mir Salamuddin Hakim, Shoaib Naeemi, Ali Sharifi, Karim Habib, Mohammad Amin

Background:
Afghanistan started COVID-19 vaccination in Feb 2021 and millions of Afghans are vaccinated as of June 2023. Knowledge, attitude and practice of public toward vaccines is not studied.

Objective:
This study aims to assess the knowledge, attitude, and practice of community in two provinces of Bamyan and Daikundi about COVID-19 vaccines in Afghanistan.

Methods:
A cross-sectional study conducted in Bamyan and Daikundi provinces among 831 community members. A structured questionnaire used to collect data during Nov-Dec 2022 on sociodemographic characteristic, knowledge, attitude, practice, and barriers against the COVID-19 vaccine. Data were entered and analyzed in Epi Info V 7.2.1. Despite of calculating frequency and percentages, the statistical test of Chi-square performed to identify association.

Results:
A total of 831 participants responded to the questionnaires of whom 535 (65%) were females and 541 (65%) were illiterate. Totally, 819 (98.56%) had knowledge of COVID-19 and 816 (98.19%) knew about its vaccines. The source of knowledge about COVID-19 vaccines were friends and relatives (83%), TV (82.67%), and health workers (76%). Agreement on safety, effectiveness and trustworthiness of vaccines were reported by 728 (87.61%), 733 (88.21%), and 669 (80.51%) of the respondents accordingly. A total of 587 (70.64%) had received COVID-19 vaccines among which J&J vaccine was the most administered (64%). Sickness after administration (15.64%) and no access to vaccines (9%) were reported as the main barriers. On the other hand, death caused vaccine (12%) and no safety (6.26%) were among the most prevalent rumors. Knowledge of COVID-19 vaccines were significantly associated with taking the vaccines (OR=16.46 [3.68-73.51]).

Conclusion:
The overall knowledge and attitude towards COVID-19 vaccines were good most of the respondents had taken COVID-19 vaccines. However, there are still barriers and rumors against immunization. Raising awareness and management of infodemic and rumors regarding vaccines should be planned and implemented.

Keywords: COVID-19 Vaccine, Knowledge, Attitude, Practice, Bamyan, Daikundi.

Descriptive Epidemiology of Sporadic Measles Cases in Balkh Province, Afghanistan, 2023

Farhad Niazi, Khwaja Mir Islam Saeed, Shoaib Naeemi, Mir Salamuddin Hakim

Background:
Measles continues to be a significant public health concern in Afghanistan cases with more than seventy thousand cases recorded in 2022. Exploring its epidemiology will assist planners and policy makers to take important decision.

Objective:
To provide a comprehensive analysis of measles sporadic cases in Balkh province, Afghanistan from January to June 2023.

Methods:
A retrospective analysis was conducted on recorded measles cases in Balkh province during January-June, 2023. Demographic information, vaccination status and laboratory data were collected from Ibn-Sina Regional Hospital Measles Surveillance Database and analyzed in Epi Info v7.2.5.

Results:
A total of 284 suspected measles cases were reported during the study period, with a median age of 12 months (range: 1-360 months) and 156(55%) were males. Measles cases were identified in 27 villages and 11 districts within Balkh Province. The highest number of cases originated from Mazar city 130 (46%) and Dehdadi 59 (21%) with peak in March 85(30%). Two deaths were attributed to measles during the study period (CFR=0.7%). Laboratory tests confirmed measles infection in 175(62%) of the reported cases. Notably, 190(67%) cases had not received any measles vaccine doses, while only 7(2.5%) had received the recommended two doses.

Conclusion:
This study provides valuable insights into the descriptive epidemiology of measles sporadic cases in Balkh Province, Afghanistan, during the first half of 2023. The findings highlight the need for targeted interventions, particularly in high-burden areas such as Mazar city and Dehdadi. However, distribution of cases from different places indicates the sporadic nature of the measles situation in this province. Strengthening routine immunization programs and implementing supplementary vaccination campaigns could help reduce the burden of measles and prevent future outbreaks. Continued surveillance, laboratory testing, and vaccination coverage monitoring are essential for effective measles control and elimination strategies in Balkh Province.

Keywords: Measles, Vaccination, Balkh, Afghanistan.

The Immunization Data Quality Assessment in Afghanistan, 2020

Samsor Rahat, Khwaja Mir Islam Saeed, Mir Salamuddin Hakim, Shoaib Naeemi

Background:
The Expanded Program on Immunization (EPI) aims to increase immunization coverage. This cannot be achieved without ensuring data quality and its standard management system.

Objective:
This study aims to assess the quality of immunization data in Afghanistan for EPI key indicators.

Methodology:
The WHO Data Quality Self-assessment (DQS) tools for primary and secondary data were used in this study. Totally, 254 health facilities that provide EPI services were randomly selected in 34 provinces. Accuracy ratio (AR), discrepancy level (DL) and completeness were calculated from tally sheets, register books and monthly reports for the third dose of pentavalent (Penta-3), and the first dose of measles (MSL-1). The primary data of the 4th quarter 2020 was assessed at the health facility, provincial and national levels. The data was analyzed by using Epi Info 7.

Results:
The overall AR for Penta-3 and MSL-1 from HF to national level was 106% and 105% respectively. The DL between national and provincial reports for Penta-3 and MSL-1 was 104%. The highest over-reporting for Penta-3 was recorded in Zabul (AR-78%) while MSL-1 is recorded in Bamyan (AR-75%) in December-2020. The lowest under-reporting for Penta-3 was recorded in Parwan (AR-513%) and for MSL-1 is recorded in Farah (AR-314%). Regarding the quality, while recording and reporting achieved the overall score for completeness was 90% and 100% from the provincial to national level.

Conclusions:
The quality of immunization data at HFs, provincial and national levels was inadequate with low quality. There is over and under-reporting from field-level data which might be intentional, non-intentional or due to the loss of information. Ensuring data quality through strengthening the EPI data management system should be prioritized. A larger scale and regular assessments of the EPI data management system are recommended.

Keywords: Immunization, Data, Quality assessment, Afghanistan

Effect Of aqueous extract on seed spand(Peganum harmala) Afghanistan on learning and memory on rat

Latifa Sadeqy, Kawsar Alami, Syeed Yousef Mousavi

Introduction:
Learning and memory are among that most fundamental processes of the human mind .Memory is defined as the change in behavior that result from experience and learning is the process of acquiring memory .Several factors ,such as age ,stress and feeling ,can impair learning and memory .Likewise ,safe, dementia ,schizophrenia ,and Alzheimer's are neurodegenerative diseases that result in decreased memory and impaired beta-amyloid portion. Although the cause of Alzheimer's disease is unknown, it has been suggested activity at different stages of Alzheimer development is one of the most effective treatment strategies. Therefore since peganum harmala contains important and effective memory compound and has acetylcholinesterase and butrylcolinesterase inhibitory activity, it is predicted to affect memory and memory impairments.

Materials and Methods:
this study was performed on 30 rats using aqueous extract of peganum harmala and scopolamine. It is aqueous extract of peganum harmala seed with doses of 15mg/kg,45mg/kg and 90mg/kg. on the 15 day of the Y-maze test, on the 17th 18th day pluse-maze test was used to measure their memory.

Result:
the result showed that none of the extract group showed a significant difference with scopolamine group. However, the aqueous extract of peganum harmala seed is not helpful in preventing Alzheimer s and speech disorder.
Conclusion: the results of the study suggest that beta-carbolines in peganum harmala seed are more active in alcoholic extract than in aqueous extract.
Keywords: Memory, Learnind, Peganum harmala.

Investigate relationship between parent's literacy level and the academic achievement of secondary school students in Shakardara district of Kabul.

Abdul Malik Hassanzada

Objective:
The purpose of this study is to investigate the relationship between parent's literacy level and the academic achievement of secondary school students in Shakardara district of Kabul.

Methods:
This research is a quantitative-descriptive and correlational design, in which 296 male high school students of Shakardara district were selected by cluster method, in the form of lottery and simple random from four schools of Mohammad Hassan Khan High School, Moradbek Castle High School. Haji Pik High School and Hazrat Othman Boys High School were selected. The instrument of data collection was the revised Hermans academic achievement motivation questionnaire by Homan and Asgari. SPSS version 26 was used for data analysis.

Findings:
Between father's literacy and the motivation of academic achievement, a significant level (sig=0.25/sig=0.05) percent and Pearson's correlation coefficient (r=0.06) has been obtained. And still, there is no significant relationship between mother's literacy and academic achievement motivation with a significant level (sig=0.134/sig=0.05) and Pearson's correlation coefficient (r=0.134) between parents' literacy and academic achievement of secondary school students of high schools in Shakardara district of Kabul.

General result:
The general result is that the literacy of the parents has no effect on the academic progress of the students from the results of the research. In this way, if a person has a better academic progress, there may be other effective factors.

Keywords: parents' literacy level, academic achievement, male students, secondary course of high schools of Shakardara district of Kabul.

Bone marrow metastasis by an occult prostatic adenocarcinoma mimicking essential thrombocytosis (ET).

Ahmed Maseh Haidary, Sarah Noor, Maryam Ahmad, Sahar Noor, Ahmad Shekib Zahier, Ramin Saadaat and Esmatullah Esmat.

Background:
Bone marrow is involved by carcinomas and sarcomas as a terminal event. Marrow involvement usually presents with peripheral cytopaenias due to marrow failure. It is least likely to encounter a patient with marrow infiltration mimicking myeloproliferative neoplasms. Here, we present a case of metastatic carcinoma of prostate that clinically mimicked essential thrombocytosis.

Case presentation:
A 63-Year-Old man with underlying stroke, was noted to have increased peripheral blood platelet count during a routine laboratory investigation, while neutrophil and hemoglobin stayed above the cytopaenic range. The high platelet count was noted to be persistent for more than three months while all infectious and inflammatory markers were deemed negative. Bone marrow biopsy showed infiltration by an occult primary adenocarcinoma of prostate.

Conclusion:
Bone marrow is a complex organ and any infiltration would affect the internal micro-environment. To our knowledge this is the first case of prostate cancer with clinical presentation mimicking essential thrombocytosis.

Keywords:
Metastatic, adenocarcinoma, prostate, essential thrombocytosis.

Chronic myeloid leukemia (CML)

Dr Ahmed Maseh Haidary

Introduction:

BCR-ABL fusion gene, the oncogenic driver of CML, results from a translocation between short arms of chromosome 9 and 22. Monitoring of CML patients during treatment is essential, not only for tailoring the treatment but also to detect early relapse to enable timely intervention. Commonly used methods for detection of residual disease are conventional karyotyping, FISH and molecular methods. In this study, we compared FISH with QRT-PCR for detection of residual disease in CML.

Materials and Methods:

CML patients on tyrosine kinase inhibitor (TKI) therapy and on regular follow up at University Kebangsaan Malaysia Medical Center (UKMMC) were selected. A comparative study was conducted between FISH and QRT-PCR for BCR-ABL transcripts at diagnosis and during follow-up.

Results:

There was good correlation between FISH and QRT-PCR for BCR-ABL. At 6th month of follow-up post diagnosis, FISH had a sensitivity of 83.3% and specificity of 65.2% (k >0.339, p0.286, p 0.642.

Karyotypic profile of chronic myeloid leukaemia, diagnosed at tertiary level in Afghanistan.

Nasrin Hussaini, Ramin Saadaat, Esmatullah Esmat, Ahmed Maseh Haidary.

Background:
Current guidelines for chronic myeloid leukemia (CML) management include utilization of both conventional cytogenetics as well as advance molecular analysis at diagnosis and while monitoring the therapy. The reason being the fact that karyotype analysis is one of the indispensable tools for identification of additional chromosomal abnormalities of prognostic significance.

Methodology:
We conducted a descriptive case-series study of 33 patients to demonstrate the profile of karyotype abnormalities in CML.

Results:
78.8% of patients had a single Philadelphia chromosome (Ph), while in addition to Ph, one patient had t (11;17), one patient had t (7;14), one patient had 5q deletion, one patient had double Ph and one patient had a complex karyotype with 6q deletion, monosomy 11, monosomy 12 and marker chromosome. Two patients with pathognomonic clinical feature of CML had normal karyotype and thus were advised to proceed with further molecular studies, since they showed significant clinical improvement with tyrosine kinase inhibitor therapy.

Conclusion:
Detection of additional chromosomal abnormalities in CML patients is a key to identification of patients requiring advance therapeutic modalities other than the conventional tyrosine kinase targeting agents. This is true both at diagnosis as well as during the tyrosine kinase inhibitor therapy.

Keywords: Karyotypic, Chronic myeloid leukemia, Tertiary level, Afghanistan.

Enhancing Perioperative Medical Care: Surgically Re-exploring patients suffering from bleeding with or without tamponade, graft occlusion, valve dysfunction, or other cardiac reason post CABG.

Varisha Madni, Nausheen Kasam, Naveen Nizar, Shahabuddin Sharfuddin, Sara Iqbal, Saulat Fatimi, Hina Inam

Introduction:
Coronary Artery Bypass Grafting (CABG) is a commonly performed cardiac surgical procedure aimed at restoring blood flow to the heart muscle. Post Operative Medical Care is a crucial aspect of Coronary Artery Bypass Grafting (CABG) procedures, immensely impacting patient outcomes and increase patient mortality and morbidity rates. The abstract addresses the surgical re-exploration of patients due to bleeding with or without tamponade, graft occlusion, valve dysfunction, or other cardiac reason. This abstract addresses the incidence of renal failure post-surgery as it adheres as a pivotal quality indicator within the realm of CABG.

Objective:
The study aims to assess post-CABG needs of patients suffering from bleeding with or with tamponade, graft occlusion, valve dysfunction, or other cardiac reason. The objective is to monitor the patients who suffer from bleeding due to sternal wire, mid sternum or from venous graft.

Methodology:
Data collection spanned 2022 (January to December), shared quarterly, and comprehensively reported at year's end. Methodology included rigorous data collection, statistical analysis, and visualization, identifying best practices, and enhancing patient outcomes. Patients with already diagnosed renal failure or had creatinine level >4 were excluded from the study.

Result:
Our study demonstrated only 1.7% of patients who presented with bleeding due to sternal wire, mid sternum, venous graft, and required another surgery. The percentage obtained is less than the target goal which was around 2.3%. In 2022, only 6 out of 349 patients suffered from post CABG bleeding and required a second visit to the hospital.

Conclusion:
Bleeding is a common complication of surgery, and can be life-threatening. In some cases, it

may be necessary to reexplore the patient surgically to control the bleeding. The study emphasizes on post CABG care with different types of bleeding.

Appraising Postoperative Medical Care: Assessing unresolved Stroke due to ischemia 24 hours post CABG.

Varisha Madni, Nausheen Kassam, Naveen Nizar, Dr Saulat Fatimi, Dr Hasanat Sharif, Dr Hina Inam

Introduction:

Coronary Artery Bypass Grafting (CABG) is a commonly performed cardiac surgical procedure aimed at restoring blood flow to the heart muscle. Post Operative Medical Care is a crucial aspect of Coronary Artery Bypass Grafting (CABG) procedures, immensely impacting patient outcomes and increase patient mortality and morbidity rates. This abstract addresses the incidence of stroke post-surgery as it adheres as a pivotal quality indicator within the realm of CABG.

Objective:

This study aims to assess the occurrence and predicators of stroke or any other neurological disorders in patients undergoing CABG surgery. The objective is to monitor the patients who suffered from a stroke due to ischemia which remains unresolved after 24 hours.

Methodology:

Data collection spanned 2022 (January to December), shared quarterly, and comprehensively reported at year's end. Methodology included rigorous data collection, statistical analysis, and visualization, identifying best practices, and enhancing patient outcomes.

Result:

Our study demonstrated only 0.6% of patients who demonstrated unresolved stroke post CABG. The percentage obtained is less the target goal which was around 1.3%. In 2022, only 2 patients out of 349 suffered from ischemic stroke. In order to enhance the post-operative results, pre-surgery stroke risk assessment should be done.

Conclusion:

Stroke is a serious complication of coronary artery bypass grafting (CABG) surgery. It can occur due to a number of factors, including unresolved ischemia, blood clots, and air bubbles. The study emphasizes on incidence of stroke which is not resolved after 24 hours in post-CABG patients.

Investigation of Relationship Between Generalized Anxiety Disorder and Hypochondria in Female Students of Kabul Education University

Bita Mohammadi

Objective:
The purpose of the present study was to investigate the relationship between general anxiety disorder and hypochondria among female students of Kabul Education University.

Methodology:
This was quantitative-descriptive and correlational design research and 140 female students of the Kabul Education University were selected by a purposeful and simple random stratified method from three faculty: psychology, specialized sciences, and natural sciences (biology). The data collection tools were two questionnaires: Beck's anxiety (BAI), and Evans' (1980) hypochondria. For data analysis SPSS 23 version was used.

Results:
There was a significant relationship between general anxiety and hypochondria in female students according to the significance level of (0.056) and the Pearson correlation coefficient of (r= 0.162).

Conclusion:
The general result is that general anxiety disorder is one of the factors of hypochondria in such a way that if a person suffers from general anxiety disorder, is more likely to get infected to hypochondria. A high level of anxiety, particularly general anxiety disorder among girls in a country with increasing mental pressures on women, increases concerns about their affection to disorders such as hypochondria. It is necessary to take actions for reducing the level of anxiety and its significant negative economic and social consequences.

Keywords: General Anxiety Disorder, Hypochondria, Female Students, Kabul Education University

Rare combination of multisystem congenital anomalies; interrupted aortic arch, congenital cystic Adenomatoid malformation of lungs and horseshoe kidneys, a case report

Dr Hidayatullah Hamidi, Adil Zaki, Masouda Popalzai

Background:

Combination of multisystem congenital anomalies have been frequently reported, but author present a rare combination of congenital anomalies of cardiovascular system, lungs and kidneys in a neonate detected with computed tomography exam.

According to authors' search in English literature no such combination has been reported in English online literature.

Case presentation:

A 1-week neonate with symptoms of congestive heart failure was sent to radiology department to undergo chest computed tomography (CT) exam for possible congenital cardiovascular anomalies. Contrast enhanced chest CT scan was performed for the patient by a 128 slice Siemens CT scanner. The images demonstrated Interrupted aortic arch (IAA) distal to the origin of left subclavian artery which is classified as type A (Figure 1). Descending aorta was opacified via large patent ductus arteriosus (PDA) from the dilated pulmonary trunk. Ventricular septal defect was noted (figure 2) with left to right shunt and resultant dilation of the pulmonary artery.

In lung window there was a large multi-loculated cystic lesion in right lung upper lobe. The cysts were mainly less than 2 cm in size. No dominant cyst was noted. Mediastinal shift towards the left side is noted. It was diagnosed as cystic adenomatoid malformation (CCAM) type 2 (Figure 3).

Included sections from the upper abdomen showed that lower poles of the kidneys were fused together anterior to the abdominal aorta consistent with horseshoe kidney.

Conclusion:

While looking for a congenital anomaly in a system, one should be cautious of possible anomalies in other organs and systems.

Proteus Mirabilis: A rare cause of pneumonia, radiologically mimicking malignancy of the lung.

Dr Saifullah, Dr Ramin Saadaat, Dr Hidayatullah Hamidi, Dr Ahmed Maseh Haidary

Introduction:

Proteus mirabilis is a Gram-negative rod. It is a highly motile bacterium that belongs to the Enterobacteriaceae. Lung infection and pneumonia caused by proteus mirabilis is extremely rare and occurs in patients with chronic debilitation or chronic lung disease.

Case presentation:

A 65-year-Old Woman presented with dry cough, dyspnoea on exertion and chest pain of four months' duration. She received multiple medications including antibiotics but without any resolution of her symptoms. Computed Tomography scan of the chest was performed reported a tumour in the upper lobe of the left lung with multiple associated pulmonary nodules. The impression was that of metastatic lung disease with superimposed acute infection. Accordingly, the patient was re-evaluated and a diagnostic bronchoscopy with multiple endobronchial biopsies and broncho-alveolar lavage was done. The gram stain showed Gram-Negative Bacilli and the bacteria identified Proteus mirabilis.

Conclusion:

Mass lesions suspected for malignancy should be managed with involvement of multiple medical disciplines, to ensure correct and timely diagnosis. This is to avoid miss-management.

Keywords: Proteus Mirabilis, Pneumonia, Mimicking, Lung cancer.

Investigating the relationship between domestic violence and mental health of mothers with the number of female children 2022

Sosan Saleh and Said Badrudin Nasrat

Introduction:
In the Afghan society, there are mothers and women whose mental health, family health and even the durability and survival of the marriage bond it depends on the gender of their child and so are men who make the mother only responsible for giving birth they know that the their children is more important to them than the health of their spouses this research was conducted whit the aim of investigating the relationship between domestic violence and mental health of mother whit the number of female children.

Methods:
The descriptive research method is a correlational type. The statistical population of this research is made of mother of khair khana-11th district of Kabul, who have more than three children, and the statistical sample is 121 mother who have more than three children. Purposive snowball sampling was selected the research tools were Goldberg's general health questionnaire and domestic violence questionnaire (spousal abuse, the research date were analyzed using ANOVA one-factor analysis of variance test.

Results:
The result of this research showed that the mental health mothers of whit multiple female children has a significant relationship whit the number of female children whit a significant level of (0.05). but the relationship between domestic violence whit a significant level of (0.0159)and the number of female children is not significant also the result showed that three is a significant relationship between domestic violence and the mental health of mothers multiple female children whit the education level of the spouse whit a significant level of (0.0159) and(0.685) there is no relationship between domestic violence and the mental health of mothers whit multiple children and monthly family income whit a significant level of (0.103) and (0.29).

Discussion:
The results of this study showed that the number of births of female children let to the low level of respondents' scores, which indicates the psychological distress of mothers regarding the gender of their children girls is to support the promotion of mothers' mental health.

keywords: domestic violence, mental health, number of female children.

Assessment of the Knowledge, Attitude (Perception), and Practice of Physicians in Kabul, regarding Massive Blood Transfusion in Emergency Medicine

Fareshta Rahmani, Dr Ahmed Masih Haidary, Smith Martin, Stephen Peuchen.

Introduction:

Massive bleeding is a major cause of death among both trauma and non-trauma patients. To reduce mortality and morbidity due to massive blood loss, physicians must find the source of bleeding and stop it and in the same critical time period transfuse sufficient and appropriate blood to maintain circulation.
The physician's knowledge, attitude, and practice have a direct effect on the clinical outcome of the intervention. They need to have enough knowledge, to take decisive action in a short time, and enough practice to properly manage the risk–benefit ratio during complications that may arise during and after major bleeding. Preliminary evidence suggests that there may be a considerable knowledge gap between clinicians in this field of transfusion medicine, i.e. a demonstrable lack of knowledge equivalence or perhaps even a lack of minimal knowledge standards.
This study therefore aims to assess this knowledge gap as well as the attitude (perception) and practice of massive blood transfusion using a validated structured (KAP) survey.

Methods:

To assess the required sample size, G power was used, and with an effect size of 0.30, false positive error of 0.05, and power of 0.9 the sample size will have to consist of at least 88 participants which are within the theoretical bandwidth of available doctors in the various Clinical Departments, pertaining to medium-sized hospitals in Kabul and this is within reach now.

After obtaining the ethical and institutional approvals, a cross-sectional online survey was created using data acquisition software (RedCap) and a paper version was distributed to a number of hospitals of Kabul city – a substantial number of forms have been returned at the time of writing.

Results and Conclusions:

Descriptive statistics of the results will be presented during the conference as well as more detailed analyses. The results and implications will be discussed in terms of recommendations at all training levels (undergraduate, graduate and postgraduate) as well as this type of data has never been published or analysed in Afghanistan and should ultimately improve the treatment of massive bleeding to an adequate level.

Management of acquired bronchobiliary fistula: A case report

Dr Soghra Khaliqi, Dr Mohammad Tareq Rahimi, Dr Roohullah Hares, Dr Haseeb ur Rahman, Dr Mermahmood shah Hoshang, Dr Sayed Murtaza Sadat Hofiani.

Introduction:
Bronchobiliary fistula (BBF) is an abnormal connection between the bronchial system and biliary tree. It is a rare condition that often manifests as bilioptysis. BBF has several causes; however infectious disease of the liver and lungs, mostly hydatid cysts, is the leading cause of BBF. For a conclusive diagnosis, imaging studies are useful and able to show the fistula tract, as we did by CT scan. The treatment of BBF is still a challenge for surgeons. In children, in the acute fulminating phase, an aggressive and rapid approach is essential to prevent respiratory tract damage.

Case presentation:
We present a case of a 17-year-old girl, who complained of bilioptysis, chest pain and loss of appetite for about nine months. Her past history revealed that she developed bilioptysis after laparotomy for excision of liver hydatid cyst 10 months ago. For which she underwent conservative and surgical treatment of bilioptysis, which all failed. After investigations, a bronchobiliary fistula was identified. A right thoracotomy was performed. After the release of adhesions and debridement of damaged tissues, the fistula tract was excised. The connection was sealed by a diaphragmatic muscle flap, which was successful in the outcome after 12 months of follow-up.

Conclusion:
BBF is a condition that requires strong presumptive evidence for diagnosis and a well-planned approach for management. Hence, each surgeon must carefully consider the optimal method for open surgery or conservative therapy after thoroughly evaluating the patient's profile and imaging. In children, a thoracic approach with a diaphragmatic flap is safe, easily available, and can easily divide the lung from the liver since that is its normal function.

Keywords: Bronchobiliary fistula; Bilioptysis; Hydatid cyst; Thoracic approach; Case report.

Effects of Garlic tablet (GARLET) in combination with Telmisartan on mild to moderate hypertension patients

Ahmad Mustafa Rahimi

Background:
Hypertension is a fatal health problem worldwide, affecting millions of people. On the other hand, administration of the side effects of the current antihypertensive drugs is another unpleasant event during treatment. So, it needs to seek alternative and safe therapies. Since ancient life, garlic has been utilized for the treatment of various diseases, including hypertension. So, this study is undertaken further to investigate the medical value of garlic on hypertension .

Materials and Methods:
In this study, 96 men with mild to moderate HTN were randomly chosen and enrolled in three groups of 32 subjects; each participant of the Garlic group received (400mg BID), the Telmisartan group received (20mg OD), and the combination group received (400mg garlic BID and 20mg Telmisartan OD) for 8 weeks. Their blood pressure (BP) was measured at baseline every week and on the last day of the 8^{th} week.

Findings:
The combination of Telmisartan with garlic was more effective in lowering the systolic and diastolic pressure than Telmisartan alone.

Conclusion:
Garlic in addition to other blood pressure-controlling drugs. Increase effectiveness of chemical drugs to lower both systolic and diastolic blood pressure.

Keywords: Garlic, Telmisartan, Systolic, Diastolic, blood pressure

Factors associated with respiratory distress syndrome (RDS) in preterm neonates admitted at FMIC in Kabul city: A retrospective cross-sectional study

Dr. Omid Ahmad Faizi, Dr. Farid Faqiri, Dr. Mansour Aslamzai

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

Objectives:
The purpose of this study was to find the occurrence rate and associated factors of rds in premature neonates.

Methods:
This retrospective cross-sectional study was conducted at the neonatal intensive care unit of the French Medical Institute for Mothers and Children hospital in Kabul city, Afghanistan during (01/01/2022-30/12/2022). Statistical analysis was performed by SPSS 24.

Result:
A total of 78 preterm newborns were enrolled in this study, and respiratory distress syndrome developed in 51.3% of them. Based on gestational age, the occurrence rates of RDS within groups of extremely, early, moderate and late preterm neonates were 100%, 55.6%, 44%, and 35.7% respectively. The occurrence of RDS was found to be 100% in extremely low birth weight, 56.2% in very low birth weight, and 58.8% in low-birth-weight neonates. The gestational ages of these infants had a positive correlation with birth weight ($r = 0.648$, $p = 0.01$, $n = 78$). The preterm neonates in the RDS group versus the non-RDS group had a mean birth weight of (1610±314.4 g vs 1981±520.3 g), a mean gestational age of (31.65±2.2 w vs 33.18± 2.10 w) and a mean hemoglobin level of (13.85± 3.28 g vs16.09± 3.26 g). There was a significant association between RDS and neonatal anemia (AOR=5.9), neonatal sepsis (AOR=4.2), vaginal delivery (AOR=8.7), delivery at low-resourced settings (AOR=2.7), PROM (AOR=4), and antepartum hemorrhage (6.9). The mortality rate in preterm neonates was found to be 26.8% that was significantly associated with very and extremely low birth weights (AOR=8.2), early and extremely preterm births (AOR=6.3), female gender (AOR=3.8), antepartum hemorrhage (AOR=4.6,) and PROM (AOR=5.7).

Conclusion:
RDS was highly prevalent in preterm newborns, and the highest rates were seen within groups of extremely preterm and extremely low-birth-weight newborn babies. RDS was found to be associated with lower neonatal birth weight, gestational age, and hemoglobin level, as well as neonatal anemia, neonatal sepsis, vaginal delivery, birth in low-resource settings, PROM, and antepartum hemorrhage. The neonatal mortality

in preterm neonates was higher than high-income country. Proper management of the aforementioned associated factors will reduce the incidence of RDS and neonatal mortality in preterm neonates.

Congenital nephrotic syndrome

Dr. Omid Ahmad Faizi, Mrs. Maqbula Sahar

Introduction:

CNS (Congenital nephrotic syndrome) is a disorder characterized by the presence of a nephrotic syndrome in the first three months of life. Different pathologies can cause this syndrome. In general, we can distinguish primary forms (sporadic and hereditary) and secondary forms (acquired and associated with other syndromes). The most common form is the Finnish CNS (CNF, congenital nephrotic syndrome of the Finnish type). The pathogenesis, the clinical picture, the diagnostic criteria, the therapy and the outcome are described in details.

Definition:

Congenital nephrotic syndrome (CNS) is a disorder characterized by the presence of a nephrotic syndrome in the first three months of life with severe proteinuria (> 40 mg/m2 or 50 mg/kg/die), hypoalbuminemia (≤ 2.5 mg/dl) and hyperlipidemia (values of serum cholesterol > 200 mg/dl or 6.5 mmoli/L) [1-3]. Other characteristic, but not essential symptoms for the diagnosis, are edema, a state of hypercoagulability and hypergammaglobulinemia.

Etiology:

Different pathologies can cause this syndrome. In general, we can distinguish primary forms (sporadic and hereditary) and secondary forms (acquired and associated with other syndromes).

Objectives:

The purpose of this study was to find the rare case of nephrotic syndrome in neonates.

Methods:

This case-sectional study was conducted at the NICU of the FMIC Hospital in Kabul City, Afghanistan and the data was collected from Medical record file of patient and electronic lab system.

Result/patient description:

The case a female infant was born at 37+1 weeks' gestation with a birth weight of 3kg. She was the third child of non-consanguineous parents with one family history of congenital nephrotic syndrome. Antenatal scans were entirely normal and the pregnancy was considered low risk. The infant was delivered in fair condition, with Apgar scores of 6 and 9 at one and ten minutes, respectively. Venous cord gas analysis showed ph7.34 and a base excess of -6.8. Arterial cord gas was mildly compromised with ph7.39 and a base excess of -8.9. He was not intubated but transferred to the neonatal intensive care unit due to need of O2 and abdominal distension. Her respiratory distress resolved quickly. Initial blood tests showed abnormal renal function and thrombocytopenia. The platelet levels fell to 124000 /L on day 2 of life and then, spontaneously recovered to normal by day 7 of life. Her initial creatinine level was 2.2mmol/L, rising to

2.4mmol/L by day 4. Despite showing no neurological signs of a significant hypoxic insult, the infant's blood tests remained abnormal with a raised creatinine level. This was monitored over the first two weeks of life in the hope it would improve. However, by day 3 he had increased peripheral edema and the creatinine remained >2mmol/L. On further review of his blood tests, the other striking finding was a persistently low serum albumin levels of 0.5gr/dl, cholesterol was 175mg/dl and increased to 200mg/dl and Hb=9.2mg/dl. Then she was treated as standard protocol and she is alive discharged to home but for specification of CNS type, she was referred to abroad.

Conclusion:

CNS is one of the rarest neonatal kidney diseases. Patients with CNS suffer a loss of proteins that negatively affects various biological functions during active disease and can result in disease-associated complications. This baby also had the specific sign and symptoms and laboratory picture of CNS, the baby was treated and for specification of CNS types, the baby was referred to abroad.

Optimizing Spare Part Inventory Management for Enhanced Equipment Maintenance

Ms. Tamana Khoistanai

This presentation focuses on optimizing spare part inventory management to enhance equipment maintenance at FMIC Hospital. The effective management of spare parts is crucial in preventing equipment downtime and ensuring uninterrupted service to patients.

The presentation highlights the significance of streamlining spare part inventory management processes, including procurement, storage, and distribution.

By implementing efficient inventory control techniques, such as just-in-time ordering, ABC analysis, and predictive maintenance, healthcare facilities can minimize the risk of equipment failure and optimize resource allocation.

Furthermore, the presentation explores the use of technology solutions, such as computerized maintenance management systems (Info-EAM 10), to automate inventory tracking, streamline reordering processes, and facilitate data-driven decision-making. Leveraging these tools can significantly enhance inventory management efficiency and reduce equipment downtime.

Additionally, the presentation emphasizes the importance of establishing strong MMD relationships and implementing effective communication channels to ensure the timely availability of critical spare parts. Collaborating with suppliers and proactively managing service-level agreements can contribute to improved equipment maintenance and enhanced patient care.

By optimizing spare part inventory management, healthcare organizations can achieve cost savings, minimize equipment downtime, and improve overall operational efficiency. The presentation aims to provide valuable insights and strategies to enable healthcare professionals to better serve patients by preventing equipment downtime through effective spare part inventory management.

Prevalence of Common Infectious Diseases among Pediatric Patients Admittedto Maiwand Teaching Hospital, Kabul, Afghanistan.

Zaker Hussain Hussain Pour Abdul Samad Salimi

Introduction:
Pediatric patients are the most frequent population visiting the different hospital department with various illnesses round the year. Infections are among the most common reason for illness in this population; the incidence of infectious diseases in pediatric patients is a major public health concern, particularly in hospital settings. Identifying the prevalence of common infectious diseases in this population is important for informing prevention and treatment strategies.

Methods:
This cross-sectional study aimed to determine the prevalence of common infectious diseases among pediatric patients admitted to Maiwand Teaching Hospital in Kabul, Afghanistan. The study, conducted from March 2022 to August 2022, included 553 patients who were clinically diagnosed with infectious diseases in the pediatric department.

Results:
Of the participants, 62.40% were male and 37.60% were female. The majorityof patients fell within the 13-60 months' age group (36.5%), followed by the 6-12 months' age group (24.6%), the under six months' age group (23.5%), the 61-120 months' age group (10.5%), and the over 120 months' age group (4.9%). The most common infectious diseases identified were diarrhea (56.41%), pneumonia (21.7%), measles (21%), malaria (0.5%), and tuberculosis (0.4%). Among the participants, 77.6% were from urban areas, while 22.4% were from rural areas. Treatment outcomes indicated that 77.40% of patients were discharged, 17.40% left against medical advice,2.90% died, and 2.40% were referred.

Conclusion:
The study emphasizes the need to increase awareness among parents of pediatric patients regarding infectious diseases, with a particular focus on diarrhea andpneumonia, which were found to be the most prevalent conditions.

Keywords: infectious diseases, Common, Children, Infants, Prevalence

Patient Safety Culture among healthcare providers at the French MedicalInstitute for Mother and Children (FMIC).

Zaker Hussain Hussain Pour

Introduction:

Patient safety is a critical aspect of healthcare, as medical errors and unsafe care can lead to adverseoutcomes and increased healthcare costs. Enhancing and promoting a culture of patient safety in healthcare facilities is essential for delivering high-quality patient care. This proposal aims to assessthe patient safety culture among healthcare providers at the French Medical Institute for Mother andChildren (FMIC).

Literature Review:

Previous research has highlighted the global significance of patient safety as a public health issue. For instance, a study conducted by Maleeha Farid et al. in 2016 examined the adherence to patient safety culture among healthcare workers in comprehensive health service centers in Karaj. The studyreported a mean (SD) total score of positive patient safety culture as 64.7 (9.9), with a minimum scoreof 36.4 and a maximum score of 89.2. Among the dimensions of patient safety culture, the highest score was observed in within-unit teamwork and head-of-center support for patient safety, while thelowest score was related to non-punitive response to errors.

Objective:

The objective of this study is to assess the current state of patient safety culture among healthcare providers at the FMIC.

Methods:

This will be a descriptive cross-sectional study utilizing the Hospital Survey on Patient Safety Culture(HSOPSC) questionnaire. The questionnaire will consist of two parts: a demographic questionnaire for healthcare providers and the HSOPS questionnaire to evaluate hospital patient safety culture compliance. Data will be collected, and after ensuring completeness, it will be registered and analyzedusing descriptive statistics in SPSS version 22.

Keywords: Patient safety, Patient Safety Culture, French Medical Institute for Mother andChildren.

Affinity and Interactions of Piperine with Beta-lactamase Class an Molecular Docking and Molecular Dynamic Simulation

Muhammad Younis Noori, Sayed Hussain Mosawi

Background:
One of the major predicaments the health systems is challenged by is the emergence of resistant bacteria. Different mechanisms of the bacterial resistance are perceived, of which β-lactamase secretion against β-lactam antibiotics is apparent. Therefore, this study aimed the evaluation of Piperine as the potential inhibitor of β-lactamase class an enzymes.

Methods:
Molecular docking was performed to determine the binding pose and binding energy of class A beta lactamase with piperine using Autodock 4.2.2 software. Then the lowest conformation in the high populated cluster chosen for further analysis. Finally molecular dynamic simulation was carried out for three enzymes utilizing GROMACS 2019.6 program applying AMBER99SB force field.

Results:
Inhibitory mechanism of the Piperine on β-lactamase class an enzymes has been investigated Docking studies confirmed the suitable value of binding energy and interactions between β-lactamase class A enzymes. Interaction analysis of the MD simulation show the formation of stable hydrogen bonds between Piperine and β-lactamase class an enzymes during the whole simulation time.

Conclusion:
For higher drug effectiveness and better health, both the pharmaceutical industries and households are recommended to add Piperine/black peppers in their drugs and diet, respectively.

Improving the knowledge of healthcare workers related to Hospital Acquired Infection

Gul Ghotai Abdal, Tawab Baryalai, Negina Mohammadi, Gul Barq Temori, Mohammad Yasin Jamakzai, Shaker Yaqobi, Naim Rahmat

Introduction:

An infection acquired by a patient during the process of care (including preventive, diagnostic and treatment services) in a hospital or other health-care facility, which was not present or incubating at the time of admission; HAIs can also appear after discharge. There are four common healthcare-associated infections; central line-associated bloodstream infections, catheter associated urinary tract infection, ventilator associated pneumonia and surgical site infection.

Method:

The Plan, Do, Study, Act (PDSA) framework is used to run this quality project. In quarter two and three a total of two cases of surgical site infection and Ventilator-associated infection were reported. On daily rounds it was observed that intubated patients were not given mouth care, the urinary bags were used for more than 7 days and surgical site dressing was not changed regularly. While doing the audit staff didn't have knowledge regarding ventilator associated pneumonia bundle, central line-associated bloodstream infections bundle, catheter associated urinary tract infection bundle and surgical sit infection bundle. A meeting was held with the head nurses to discuss the issue. Staff knowledge was assessed by taking a pre-test. A number of sessions were conducted for the staff of each unit followed by post-test. Flyers were developed and distributed in all units.

Result:

The pre-test result was 60% and the post-test result was 90%. After this quality project staff were followed the VAP bundle care, CAUTI bundle and CLABSI bundle. During this quality project no case of HCAI was reported.

Conclusion/Recommendation:

Staff didn't have knowledge regarding the four common HCAIs and the concerned bundles. After the completion of this quality project, staff knowledge was improved and they were following the care bundles of each type of HCAI. I would recommend the head nurses conduct sessions regularly in their department to keep their knowledge updated and monitor them closely for practicing the bundles.