

Program and Abstract Book



2nd TUFMHS

2 Annual Medical
Conference

المؤتمر الطبي السنوي الثاني



2019

17-18 APRIL

Thamar University Al-Wahdah
Teaching Hospital, Ma'bar City,
Dhamar Governorate, Yemen

“ Up to date and Recent Advances in
Medicine and Health Sciences ”



Welcome to the Second Thamar University Faculty of
Medicine & Health Sciences Annual Medical Conference
(2nd TUFMHS AMC)

MESSAGE FROM THE UNIVERSITY RECTOR



Under special circumstances and after four years of aggressive war and siege. The hope is shining and renewed by steadfastness and determination of the greatest Yemeni loyal people. We are here today with full pride and confidence of victory launching Thamar University Faculty of Medicine and Health Sciences (TUFMHS) Second Annual Medical Conference as extraordinary event which inspires the minds and spirits of all participants by scientific and medical researchers and inspired guest speakers in the new trends of medicine and medical technologies. This conference and scientific activities will contribute in reforming the output of TUFMHS making them unique from the rest of Yemeni Universities.

Thamar University has spared no efforts to make its way toward the desired excellence at accelerated footsteps. It was and still the real model of sober education institute making it one of the high ranking University and an example to be followed for advancing education efficiency locally and internationally. The TUFMHS Has made great confident steps to secure academic accreditation through the completion of its academic programs descriptions and academic courses specifications in accordance with standards academic accreditation in order to elevate excellence and uniqueness. The TUFMHS has taken advanced steps in modernization of academic programs, scientific research and society services through its distinguished academic staff. All these successes would have not been achieved without the wisdom efforts of the dean of the faculty, vices of the dean, academic staff and administrative staff.

The TUFMHS is a genuine example of effective and responsible educational institution and model to the other faculties of the University. In this context, the College has spared no efforts in achieving its vision and mission, It has worked hardly to prepare and equip scientific laboratories and classrooms to meet the requirements of higher education and fundamental necessities of medical field applications and specialization. It also sought to open the electronic library through participating in various international medical databases for the teaching and learning processes. The rest of the faculties of Thamar University have pursued to join the Faculty of Medicine success stream, after the University made 2019 the year of description and modernization of academic programs and courses, translation of its comprehensive strategy and goals to promote the Performance of University . These achievements are great in addition to other achievements implemented by the University and there is no spare capacity to mention them. These successes will significantly contribute substantially to the College of Medicine and other colleges in strengthening its scientific messages and providing quick service to students by exploiting the modern technologies by Automated Unit of the students affairs which completed the first phase of the ERP.

Finally I would like to express my heartfelt thanks and sincere gratitude to the guests of the conference. we wish them a happy time in the shadow of science and in the horizons of this conference. My immortal icons of thanks to Dr. Amat Al-Khaleq Mehrass, Dean of the TUFMHS and everyone who worked with her for organizing the second annual medical conference. I wish the conference a great success, and all guests and participants a most rewarding and enjoyable time in Dhamar.

PROF. DR. TALEB TAHER AL-NAHARI

MESSAGE FROM THE FACULTY DEAN

CHAIRMAN OF 2nd TUFMHS ANNUAL MEDICAL
CONFERENCE



Dear brothers and sisters, attending the 2nd TUFMHS Annual Medical Conference, I welcome you and appreciate your interest in promoting academic, professional and educational work.

Here we hold this conference with confidence and challenge. If we were to give up and despair, we would not be able to carry out the first step (the 1st TUFMHS AMC). Actually, we have no choice but to prove to ourselves first that we have a high level of hope and ambition.

You fully know the importance of such meetings in supporting our country and nation. You also know that the scientific research is the basis for the progress of any society and these meetings are the pillar of knowledge transfer and expansion of its scope.

We will continue and intensify our efforts and we will not let those concerns, obstacles and tragedies facing our beloved country be an excuse to stop the wheel of development and construction. But we will make those challenges as a catalyst for us to continue. Fully aware that faith in our academic, educational and professional cause is not only in prosperity, but in trials and tribulations true faith is tested.

I would also like to point out that we have accomplished what we promised you at the 1st TUFMHS AMC, the Annals of Medicine & Health. We have already established it and here we officially announce the beginning of its publication. Accordingly, we invite all the professors (full, associate and assistant) present at this conference to join its advisory board and reviewers membership.

God willing, we will continue and will not stop us except death. Long live our country free and cherished. Thank Allah the god of everything.

ASSOC. PROF. DR. AMAT AL-KHALEQ OBAD MEHRASS

CONFERENCE SECRETARY



Assist. Prof. Dr. Abdulelah

H. Al-Adhroey

General Secretary

Department of Parasitology

& Community Medicine



**Assist. Prof. Dr.
Adel A. Amran**

*General Secretary Associate
Department of Physiology*



**Assist. Prof. Dr.
Abdulqawi
Ali Al-Shammakh**

*General Secretary Assistant
Department of Biochemistry*



**Assist. Prof. Dr. Waleed
Esmail Mohammed**

*General Secretary Assistant
Department of Pathology*



Dr. Saleh S. Al-Jammal

*Secretary Member
Department of
Physiology*



**Dr. Mohammed A
Al-Kholani**

*Secretary Member
Department of
Parasitology*



Ali M. Al-Sharafi

*Secretary Member
Manager of Dean Office*

CONTENTS

Title	Page
Message From the University Rector	2
Message From the Faculty Dean Chairman of the 2nd TUFMHS AMC	3
Conference Secretary	4
Speakers	7 - 15
Conference Program	17 - 20
Conference Abstracts	22 - 47
Faculty Research Abstracts	49 - 65
Annals of Medicine & Health	67 - 75



Speakers



Anticoagulants During Pregnancy: Evidence-Based Medicine

Amat Al-Khaleq Obad Mehrass

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Obstetrics and Gynaecology Consultant*

Department of Obstetrics and Gynaecology, Faculty of Medicine & Health Sciences,
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Civilian Gunshot of the Abdomen in Yemen

Saeed Hadi Al-Bahlouli

*Associate Professor of Surgery
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Blood Pressure Control: Where We Are?

Mohammed Haider Al-Dholae

*Associate Professor of Internal Medicine
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Management of Common Bile Duct Stones: Personal Experience and Algorithm Suggestion

Ahmed Alezzi Al-Malahy

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Surgery Consultant*

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The Use of Vascular Graft in an Infected and Bleeding Wound

Nagi Homesh Ghallab

*Professor of Surgery
Surgery Consultant*

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Sana'a University, Sana'a, Yemen

What Do We Need to Know More to Improve MAS Safety and Outcome?

Yassir A. Mughni

*Fellow of the Royal College of Surgeons of Ireland
Consultant General & Laparoscopic Surgeon*

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Sana'a University, Sana'a, Yemen



Urogenital Fistulae among Yemeni Women: Aetiology and Treatment

Ibrahim H. El-Nono

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Urology Consultant*

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Sana'a University, Sana'a, Yemen



Complications and Outcomes of First and Second Adolescent Pregnancy: Retrospective Clinical Controlled Trial

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Laboratory Medicine and Future

Ali M. Almeeri

Professor of Medical Biochemistry

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Sana'a University, Sana'a, Yemen

Predisposing Factors of Obstetric Fistula and its Surgical Outcomes

Tawfik Al-busaili

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Analysis of Selected ECG Tracings

Dhaifullah Saleh Jayed

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HBV and HCV among Public Health Center Cleaners, Yemen / Hepatitis C Virus in Haemodialysis Patients, Yemen

Hassan A. Al-Shamahy

Professor of Medical Microbiology

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Medicine and Health Sciences, Sana'a University, Sana'a, Yemen





Free Radicals and Their Impact on Health

Daiekh Abed Ali Abod

Professor of Chemistry

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Rheumatic Fever: Primary and Secondary Prevention

Ahmed Almutareb

*Professor of Cardiology
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The effect of CO₂ Pneumoperitoneum Used in Laparoscopic Cholecystectomy on Renal Functions

Abdullah Almatary

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Genetic Diseases in Yemen

Ahmed Hamood Alshehari

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Thamar University, Dhamar, Yemen





Diagnostic Challenges and Management Options of Caesarean Scar Ectopic Pregnancy: Four Cases Report

Salwa AL kumairy

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The Concept of Quality of Medicine

Ahmed Galeb Almekhlafi

Assistant Professor of Pharmacy

Department of Pharmacology, Faculty of Medicine & Health Sciences,
Thamar University, Dhamar, Yemen



Role of Mycotoxin on Cancer in Yemen

Mohammed A. Al-Ghazali

Associate Professor of Pharmacology

Department of Pharmacology, Faculty of Medicine & Health Sciences,
Thamar University, Dhamar, Yemen



Intrauterine Growth Restriction Risk Factors and Outcomes

Aliah Shoieb

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Obstetrics and Gynaecology Consultant*

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Sana'a University, Sana'a, Yemen.





Practical Management of Heart Failure: What Do You Need to Know? / Preoperative Assessment

Salah Al Shawky

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Cardiology Consultant*

Department of Internal Medicine, Faculty of Medicine & Health Sciences,
Thamar University, Dhamar, Yemen

Toward Safe and Optimum Thyroid Surgery / Thoracoscopic Surgery for Thymic Lesions

Yasser A. Obadiel

*Assistant Professor of Surgery
Surgery Consultant*

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Thamar University, Dhamar, Yemen



Endovascular Surgery: More for Less

Mohamed Ali H. Alshujaa

*Assistant Professor of Surgery
Surgery Consultant*

Department of Surgery, Faculty of Medicine & Health Sciences,
Thamar University, Dhamar, Yemen

Future of Aesthetics Medicine

Waleed Esmail Mohammed

*Assistant Professor of Pathology and Dermatology
Consultant of Pathology and Dermatology*

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Medicine & Health Sciences, Thamar University, Dhamar, Yemen



Discussion on Trends in Cholera and Diphtheria Epidemiology in Yemen



**Abdulsalam
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**Abdulhakim
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Mohammed Q. Salah

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**Abdulrahman Y.
Al-Haifi**

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Sciences, Thamar University,
Dhamar, Yemen.

Workshop on Basic Life Support (BLS)

Target Audience	General Practitioner (GP) and House Officer
Number of Beneficiaries	50 GPs and House Officers
Workshop Objectives	<p>This workshop aimed to equip the participants with basic knowledge, skills and attitude to perform with confidence basic life support techniques to save lives. After the training the participants will be able to:</p> <ul style="list-style-type: none"> • Describe the principles of emergency care. • Identify the kinds of life support of survival for adult and children. • Demonstrate how to provide cardiopulmonary resuscitation to an adult, child and infant.
Credit Hour	One Credit Hour
Date and Time	17 April 2019; 9 a.m. to 5 p.m.
Organized by	Tamar University Faculty of Medicine & Health Sciences
Coordinator	Assist. Prof. Dr. Waleed Esmail Mohammed, Continuous Medical Education (CME) Unit, Tamar University Faculty of Medicine & Health Sciences
Venue	Clinical Sector Halls Complex, Tamar University Al-Wahdah Teaching Hospital, Ma'bar City, Dhamar Governorate

Speakers



Dr. Turki Saleh Ghilan

Collage of Health and Technical Emergency Sciences, Sana'a, Yemen



Dr. Sami Abdu K. Alwessabi

Collage of Health and Technical Emergency Sciences, Sana'a, Yemen

Workshop on Basic Ultrasound Skills for Beginners

Target Audience	General Practitioner (GP) and House Officer
Number of Beneficiaries	50 GPs and House Officers
Workshop Objectives	This course is applicable to all beginners to learn and develop basic skills of ultrasound. After the training the participants will be able to: <ul style="list-style-type: none"> • Recognize the basic ultrasound physics and machines. • Approach the ultrasound pathology, basic images and ultrasound artefacts.
Credit Hour	One Credit Hour
Date and Time	18 April 2019; 9 a.m. to 5 p.m.
Organized by	Thamar University Faculty of Medicine & Health Sciences
Coordinator	Assist. Prof. Dr. Waleed Esmail Mohammed, Continuous Medical Education (CME) Unit, Thamar University Faculty of Medicine & Health Sciences
Venue	Clinical Sector Halls Complex, Thamar University Al-Wahdah Teaching Hospital, Ma'bar City, Dhamar Governorate.

Speaker



**Dr. Nabil Abdulmalek
Al- Hamaty, MD**

Dhamar General Hospital, Dhamar, Yemen



Conference Program

The 1st Day
Wednesday: 17 April 2019

08:00 – 09:00 Registration

09:00 – 09:30 Opening Ceremony

Hall 1

Session One 09:30 – 10:30

Chairpersons	Amat Al-Khaleq Mehrass, Saeed Hadi Al-Bahlooli, Yaser Abdulmughni	
Time	Title	Speaker
09:30 – 10:00	Management of Common Bile Duct Stones: Personal Experience and Algorithm Suggestion	Ahmed Alezzi Almalahy
10:00 – 10:30	The Use of Vascular Graft in an Infected and Bleeding Wound	Nagi Homesh Ghallab

Session Two 10:30 – 11:45

Chairpersons	Tawfik Al-busaili, Athmar Hussian Ali, Aliah Shoieb	
Time	Title	Speaker
10:30 – 10:45	Unusual Cases in Daily Surgical Practice	Saeed Hadi Al-Bahlooli
10:45 – 11:00	Toward Safe and Optimum Thyroid Surgery	Yasser A. Obadiel
11:00 – 11:15	Rare Presentation of Congenital Anomalies (Tetra-Amelia Syndrome)	Fathia M. Alezzi
11:15 – 11:30	Management of Tibial Bone Defect with Soft Tissue Loss: Ilizarov Technique Alone or Combined with Fasciocutaneous Flap; Comparative Study	Hefzulla M. H. Abdulla
11:30 – 11:45	Discussion	
11:45 – 12:00 Coffee Break		

Session Three 12:00 – 02:30

Chairpersons	Ahmed Alezzi Almalahy, Ibrahim H. El-Nono, Kamal Bahakim	
Time	Title	Speaker
12:00 – 12:30	Complications and Outcomes of First and Second Adolescent Pregnancy: Retrospective Clinical Controlled Trial	Athmar Hussian Ali
12:30 – 01:00	Predisposing Factors of Obstetric Fistula and its Surgical Outcomes	Tawfik Al-busaili
01:00 – 01:30	Diagnostic Challenges and Management Options of Caesarean Scar Ectopic Pregnancy: Four Cases Report	Salwa AL kumairy
01:30 – 02:00	Intrauterine Growth Restriction Risk Factors and Outcomes	Aliah Shoieb
02:00 – 02:30	Discussion	
Lunch Time		

The 1st Day Wednesday: 17 April 2019

08:00 – 09:00 Registration
09:00 – 09:30 Opening Ceremony

Hall 2

Session One 09:30 – 10:30

Chairpersons	Abdulsalam M. Al-Mekdad, Aziz S. Al-Zendani, Abdulhakim A. M. Al-Selwi	
Time	Title	Speaker
9:30 – 10:00	Analysis of Selected ECG Tracings	Dhaifullah Saleh Jayed
10:00 – 10:30	Blood Pressure Control: Where We Are?	Mohammed Haider Al-Dholae

Session Two 10:30 – 11:45

Chairpersons	Mohammed Haider Al-Dholae, Dhaifullah Saleh Jayed, Ali Abdullah Al-Mehdar	
Time	Title	Speaker
10:30 – 11:00	Laboratory Medicine and Future	Ali M. Almeeri
11:00 – 11:20	HBV and HCV among Public Health Center Cleaners, Yemen	Hassan A. Al-Shamahy
11:20 – 11:40	Practical Management of Heart Failure: What Do You Need to Know?	Salah Al Shawky
11:40 – 11:45	Discussion	
11:45 – 12:00 Coffee Break		

Session Three 12:00 – 01:00

Chairpersons	Hadi Mohammed Mujlli, Yahya Mahdi Al-Abhar, Mohammed Ali Al-Huthi	
Time	Title	Speaker
12:00 – 12:20	Future of Aesthetics Medicine	Waleed Esmail Mohammed
12:20 – 12:35	Patterns of Psychiatric Diagnosis and Sociodemographic Correlates in a Private Psychiatric Hospital in Yemen	Mohammed Almaqrami
12:35 – 12:45	Prevalence of Proteinuria among Type 2 Diabetic Patients in Dhamar governorate, Yemen	Abdulqawi Ali Al-Shammak
12:45 – 01:00	Plasma Malondialdehyde, Antioxidative and Lipid Levels in Patients with Cutaneous Leishmaniasis	Salwa AbdulGhani

Session Four 01:00 – 02:30

Chairpersons	Ali M. Almeeri, Mohammed Almaqrami, Abdulrahman Y. Al-Haifi	
Time	Title	Speaker
01:00 – 01:15	Extended Spectrum Beta-Lactamase among common isolated Gram negative Enterobacteriaceae and Pseudomonas in Yemen	Tawfique Kaid Ahmed Al Zubieri
01:15 – 01:30	Effect of Khat with Diazepam on Liver and Kidney Functions of Albino Rats	Ashwaq Abdullah Al-Mahdi
01:30 – 01:45	Prevalence of Parasitic Infections among Cleaners Working at Public and Private Health Facilities in Dhamar Governorate, Yemen	Mohammed A. Al-Kholani
01:45 – 02:00	Diabetes Mellitus: The Role of Oxidative Stress and Antioxidants	Nirjala Laxmi Madhikarmi
02:00 – 02:30	Discussion	
Lunch Time		

The 2nd Day
Thursday: 18 April 2019

Hall 1

Session One 09:00 – 10:30

Chairpersons	Saeed Hadi Al-Bahlooli, Nagi Homesh Ghallab, Abdullah Y. Naeem	
Time	Title	Speaker
90:00 – 09:30	Urogenital Fistulae among Yemeni Women: Aetiology and Treatment	Ibrahim H. El-Nono
09:30 – 10:00	What Do We Need to Know More to Improve MAS Safety and Outcome?	Yassir A. Mughni
10:00 – 10:30	Free Radicals and Their Impact on Health	Daiekh Abed Ali Abod

Session Two 10:30 – 11:45

Chairpersons	Ibrahim H. El-Nono, Ahmed Alezzi Almalahy, Abdulwahab M Y Al-Mutahar	
Time	Title	Speaker
10:30 – 11:00	Anticoagulants During Pregnancy: Evidence-Based Medicine (Interactive Discussion)	Amat Al-Khaleq O. Mehrass
11:00 – 11:20	Civilian Gunshot of the Abdomen in Yemen	Saeed Hadi Al-Bahlooli
11:20 – 11:40	The effect of CO ₂ Pneumoperitoneum Used in Laparoscopic Cholecystectomy on Renal Functions	Abdullah Almatary
11:40 – 11:45	Discussion	
11:45 – 12:00 Coffee Break		

Session Three 12:00 – 01:00

Chairpersons	Daiekh Abed Ali Abod, Abdelrahman Hasan Al Harazi, Yahia Rajeh	
Time	Title	Speaker
12:00 – 12:15	Endovascular Surgery: More for Less	Mohamed Ali H. Alshujaa
12:15 – 12:30	Role of Mycotoxin on Cancer in Yemen	Mohammed A. Al-Ghazali
12:30 – 12:45	Thoracoscopic Surgery for Thymic Lesions	Yasser A. Obadiel
12:45 – 01:00	Outcome of Transfer Flexor Carpi Ulnaris and Palmaris Longus Tendons for Hand Deformity in Persistence Radial Nerve Palsy	Abdullah Y. Naeem

Session Four 01:00 – 02:30

Chairpersons	Yassir A. Mughni, Hefzulla M. H. Abdulla, Yasser A. Obadiel	
Time	Title	Speaker
01:00 – 01:15	Planned Complex Suicide: An Unusual Suicide by Hanging and Gunshot	Mohamed Hassan Nagi Abdu
01:15 – 01:30	Obstructive Sleep Apnea Treatment: Maxillofacial Surgery Approach	Gabr Ateik Al-Radom
01:30 – 02:00	The Concept of Quality of Medicine	Ahmed Galeb Almekhlafi
02:00 – 02:30	Discussion	
Lunch Time		
Closing Ceremony		

The 2nd Day
Thursday: 18 April 2019

Hall 2

Session One 09:00 – 10:30

Chairpersons	Dhaifullah Saleh Jayed , Hussain M. Al Aljarmouzi , Mohammed Haider Al-Dholae,	
Time	Title	Speaker
90:00 – 09:30	Rheumatoid Fever: Primary and Secondary Prevention	Ahmed Almutareb
09:30 – 10:00	Preoperative Assessment (Interactive Discussion)	Salah Al Shawky
10:00 – 10:15	Hepatitis C Virus in Haemodialysis Patients, Yemen	Hassan A. Al-Shamahy
10:15 – 10:30	Bionomics of Phlebotomine Sandflies at Dhamar City and Neighboring Districts, Yemen	I. R. M. AL-Shaibani

Session Two 10:30 – 11:45

Chairpersons	Amat Al-Khaleq Mehrass, Aziz S. Al-Zendany, Najla Baghza	
Time	Title	Speaker
10:30 – 11:30	Discussion on Trends in Cholera and Diphtheria Epidemiology in Yemen	Abdulsalam M. Al-Mekdad (Moderator) Abdulkhakim A. Al-Selwi Mohammed Q. Salah Abdulrahman Y. Al-Haifi
11:30 – 11:45	Discussion	
11:45 – 12:00 Coffee Break		

Session Three 12:00 – 01:00

Chairpersons	Hassan A. Al-Shamahy, Ahmed Galeb Almekhlafi, Abdullatif D. Ali	
Time	Title	Speaker
12:00 – 12:30	Genetic Diseases in Yemen	Ahmed Hamood Alshehari
12:30 – 12:45	Frequency and Molecular Characteristics of Extended Spectrum Beta-Lactamase in Yemen	Tawfique Kaid Ahmed Al Zubieri
12:45 – 01:00	In Vivo Comparison between Aspirin and Some Herbal Extracts on Blood Coagulant and Liver Function	Ashwaq Abdullah Al-Mahdi

Session Four 01:00 – 02:30

Chairpersons	Ahmed Almutareb, Adel A. Amran, Mohammed Q. Salah	
Time	Title	Speaker
01:00 – 01:30	Epidemiology and Outcome of Acute Bacterial Meningitis among Children in Saudi Hospital Hajjah, Northwest Territories of Yemen	Ahmed Hamood Alshehari
01:30 – 02:00	Prevalence of Hyperprolactinemia among Infertile Women in Dhamar Governorate, Yemen	Fathia M. Alezzi, Arwa M. Alezzi,
02:00 – 02:30	Discussion	
Lunch Time		
Closing Ceremony		



Conference Abstracts

Unusual Cases in Daily Surgical Practice

Saeed Hadi Al-Bahloli^{1*}

Case report: Unwanted iatrogenic damage to the patients during daily medical service and management is not uncommon event worldwide. Some of these mistakes and mismanagement lead to fatal complications. Reporting these conditions of mismanagement to professional medical staff will open constrictive discussion resulting in increase the awareness and precaution of medical staff during management of such cases; this is in one hand, in the other hand decrease the frequency of these mistakes. We hereby present four extremely unusual cases referred to surgical emergency department in Hajjah hospital over period from 2012 to 2015. The aim of these reports is to inform surgical experts how such simple cases were irresponsibly managed by irresponsible poorly trained persons and to attract the attention of surgical audience to such mismanagement in order to eliminate such irresponsible practice.

Keywords: *Uterine Curettage, Complications*

1. Department of Surgery, Faculty of Medicine & Health Sciences, Thamar University, Dhamar, Yemen.

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Rare Presentation of Congenital Anomalies (Tetra-Amelia Syndrome)

Fathia M. Alezzi^{1*}

Case report: Congenital anomalies are one of the most common causes of neonatal morbidity and mortality. It is structure or functional anomalies causing physical or mental disability, some of which fatal. Congenital abnormalities are the root cause of neonatal death where the prevalence of congenital birth defect is about 11 % among Yemeni infants. In our work, we observe the incidence of congenital anomalies is increasing as previous 1 to 3 cases in a year. However, now we see more than one case every month and rare cases also seen as Tetra-Amelia syndrome.

Keywords: *Congenital Anomalies, Tetra-Amelia Syndrome, Yemen*

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Prevalence of HBV and HCV; and their associated risk factors among public health center cleaners at selected Public Health Centers in Sana'a city-Yemen

Waleed M. Al-Marany¹, Hassan A. Al-Shamahy^{1*}

Background: Occupational exposure of public health center cleaners (PHCCs) to blood and body fluids after skin injury or mucous membrane contact constitutes a risk for transmission of blood-borne pathogens. In the industrialized world, occupational surveillance is performed to assess and monitor health hazards related to blood borne pathogens. In contrast, in developing countries as Yemen, exposure and health impacts are rarely monitored and much remains to be done to protect PHCCs.

Aim: The objective of this study was to determine the prevalence of HBV and HCV and their potential risk factors among PHCCs.

Methods: A cross sectional prospective study was conducted among 388 PHCCs. Data was collected using pre-tested and structured questions. Venous blood was collected and the sera were tested for HBV surface antigen and anti-hepatitis C antibodies using enzyme-linked immune sorbent assay technique. The data were analysis by EPI-Info. Chi square and Odds ratio tests were used to assess the association of risk factors with HBV and HCV positivity.

Results: Results revealed that among the total 388 PHCCs examined, HBV and HCV were detected in 32 (8.2%), and 4 (1.03%) of them respectively. There was significant risk factors of hepatitis viruses with age group 20-24 years (OR=2.8), exposure to patients blood (OR=3), accidental stick of used needles (OR=2.3), sharp injury (OR=5.6), history of blood transfusion (OR=2.5), and hospital admission (OR=2.7). Also significant protected roles for HBV vaccine was found with infection.

Conclusion: In conclusion high prevalence rates of HBV and HCV occurred in PHCCs. Unfortunately; all workers did not take training on medical waste and few workers use protective measures consistently as vaccination. There is needed to make vaccination of health care workers against HBV infection a firm policy and ensure complete and consistent adherence to work standard safety measures.

Keywords: HBV, HCV Prevalence, Risk Factors, Public Health Center Cleaners (PHCCs), Yemen

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Management of Tibial Bone Defect with Soft Tissue Loss: Ilizarov Technique Alone or Combined with Fasciocutaneous Flap; Comparative Study

Hefzulla M. H. Abdulla^{1*}, Abdurakeeb Shoja¹, Shehab Hazza¹

Background: Ilizarov ring fixator alone and in combination with fasciocutaneous flaps have been used in the management of tibial fractures associated with bone defect and severe soft tissue injuries and infected tibial nonunion for which conventional internal fixation cannot be contemplated. Fracture union and soft tissue coverage can be done simultaneously with these external fixators, allowing early weight bearing.

Aim: This study was aimed to evaluate the union rate, complication, bone and functional outcome after the treatment of tibial fractures associated with bone defect and soft tissue loss with or without infection.

Methods: This multicenter retrospective study included 83 patients of tibial bone defect with soft tissue or poor skins with or without infected nonunion. There were 80 males and 3 females and the average age was 31 years. Patients were divided into two groups: the first group underwent Ilizarov technique alone and the second group received it with flaps to cover the skin defect. Cases were followed up for six months or up to 13 years; from May 2004 to December 2017. Functional and radiological outcomes were assessed using the Association for the Study and Application of Methods of Ilizarov (ASAMI) criteria.

Results: Union was achieved in all cases managed by flap with Ilizarov technique, but not with ilizarov technique alone. The complication rate was higher in the second group.

Conclusion: Combined use of fasciocutaneous flap and Ilizarov technique provides more reliable soft tissue coverage and bone reconstruction with lower rates of complications.

Keywords: *Ilizarov Technique, Tibial Bone Defect, Fasciocutaneous Flap*

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Complications and Outcomes of First and Second Adolescent Pregnancy: Retrospective Clinical Controlled Trial

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Background: Teenage pregnancy is associated with significant antenatal and perinatal complications that need specific obstetrical attention. Obstetricians should be aware of these complications in order to improve the antenatal outcome of childbearing teenagers. Younger adolescents had an increased risk of maternal anemia, preterm delivery at less than 37 weeks of gestation, postpartum hemorrhage, preeclampsia or hemolysis, increased liver enzyme levels, and low platelet syndrome, but had a decreased risk of cesarean delivery, chorioamnionitis, and neonatal intensive care unit admission. The second pregnancies of adolescents were associated with fewer adverse perinatal outcomes than were their first pregnancies.

Aim: The aim of this trial was to investigate the complications and outcomes of first and second adolescent pregnancy in Yemen.

Methods: Used methods well be presented at the 2ND TUFMHS Annual Medical Conference.

Results: Results of this controlled trial well be presented at the 2ND TUFMHS Annual Medical Conference.

Conclusion: Conclusions of this retrospective clinical controlled trial will be presented at the 2ND TUFMHS Annual Medical Conference.

Keywords: *Adolescent Pregnancy, Complications, Outcomes, Women, Yemen*

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Predisposing Factors of Obstetric Fistula and its Surgical Outcomes among Al-Sabeen Maternal Hospital Attendances, Sana`a -Yemen

Tawfik Al-busaili^{1*}

Background: Worldwide each year more than half a million healthy young women die from complications of pregnancy and childbirth. Virtually all such deaths occur in developing countries. The World Health Organization (WHO) estimates that, globally, over 300 million women currently suffer from short-or long-term complications arising from pregnancy or childbirth, with around 20 million new cases arising every year. Every minute 20 women worldwide suffer from a devastating disability including obstetric fistula due to childbirth complications. A debilitating condition that has left and continues to leave hundreds of thousands of women suffering in isolation and shame, obstetric fistula is perhaps one of the most telling examples of inequitable access to maternal health care and, until recently, one of the most hidden health problems is permanent unless corrected by surgery.

Aim: The aim of this report was to give details about the predisposing factors of obstetric fistula and its surgical outcomes among Al-Sabeen Maternal Hospital attendances, Sana`a, Yemen.

Methods: Used methods well be presented at the TUFMHS 2ND Annual Medical Conference.

Results: Results of this report well be discussed at the TUFMHS 2ND Annual Medical Conference.

Conclusion: Conclusions of this report will be presented at the TUFMHS 2ND Annual Medical Conference.

Keywords: *Predisposing Factors, Obstetric Fistula, Surgical Outcomes, Women, Yemen*

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Patterns of Psychiatric Diagnosis and Sociodemographic Correlates in a Private Psychiatric Hospital in Yemen

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Background: Patterns of psychiatric diagnosis and sociodemographic correlates are a significant topic of psychiatry researches.

Aim: This study aimed to explore the current patterns of psychiatric diagnoses and their correlated socio-demographic factors in private mental health hospital in Sana'a, Yemen.

Methods: A Cross-sectional and hospital based approach was adopted in this study. Inclusive criteria were adult patients, seeking psychiatric advice at Alhayat Mental Health Hospital, Sana'a city, for the first time, during the period from 1st January till 31 December 2018. Children and those affected by neurological disorders have been excluded from this study. The data were obtained initially by interviewing the patients and finally by reviewing the patient charts.

Results: A total of 1340 adult patients were recruited. The mean age of patients was 33 years. The majority 65.5 (878) was male, married 63 % (843), literate 82.4 % (1104) and resident outside Sana'a city 58% (782). The vast majority 90.4% (1211) was advised through outpatient clinic, while 9.6 % (129) was admitted into inpatient department. The most common psychiatric diagnoses among outpatients and inpatients were bipolar disorder 31.8 % (385) vs. 52.7 % (68), followed by schizophrenia 25.4 % (308) vs. 31% (40), respectively. Depressive disorders among outpatients and inpatients were 12.6 % and 14 %, respectively. Anxiety disorders affected about 20% of outpatients. Psychotic patients were significantly more frequent among men 74.2 % (561) whereas nonpsychotic disorders were more frequent among women 69 % (316). Psychotic and nonpsychotic disorders were significantly more frequent among younger patients.

Conclusion: The finding in the present study supports the fact that psychiatric hospital services are utilized more by male patients than by female patients. The most common psychiatric diagnoses among inpatients and outpatients were psychotic disorders such as bipolar disorder and schizophrenia. Predominance of psychotic disorders among these patients may indicate that patients with minor and more common mental illnesses do not seek treatment from a specialty psychiatric hospital, as there is a common myth that psychiatric hospitals are for mentally ill persons (patients having psychotic disorders) rather than for patients with any other psychiatric illness. Similar findings have been reported by other studies and provide important lessons for the practitioners of psychiatric medicine in Yemen.

Keywords: *Psychiatric diagnosis, Private Psychiatric Hospital, Yemen*

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Diagnostic Challenges and Management Options of Caesarean Scar Ectopic Pregnancy: Four Cases Report

Salwa AL kumairy^{1*}

Case report: Caesarean scar pregnancy (CSP) is a rare form of ectopic pregnancy whereby the gestational sac is fully or partially implanted within the scar ca used by a previous caesarean section (CS). The first case was reported in 1978. Estimates of CSP incidence range from 1/1800 to 1/2500 of all pregnancies. It has been estimated that 6.1% of pregnancies in women with at least one previous CS and a diagnosis of ectopic pregnancy will be CSP. Only 19 cases of CSP were reported in the literature up to 2001 and by 2007, 61 cases had been reported. To date, more than 100 cases have been reported. This is attributable partly to the increasing number of CS performed and to increasing awareness and better ultrasound diagnosis. Pathophysiology, little is known about the mechanism and aetiopathology of CSP. In this conference, four cases of caesarean scar ectopic pregnancy will be reported. Diagnostic challenges and management options will be also discussed.

Keywords: *Caesarean Scar Pregnancy, Diagnosis, Management, Women, Yemen*

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Prevalence of Proteinuria among Type 2 Diabetic Patients in Dhamar governorate, Yemen

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Background: Diabetic nephropathy remains the most common cause of end-stage renal disease (ESRD) worldwide. Microalbuminuria is the first clinical sign of renal dysfunction in patients with diabetes mellitus. A urine total protein-to-creatinine ratio (TPCR) is a convenient and inexpensive measure of proteinuria and could be used to predict the presence of microalbuminuria in diabetic patients.

Aim: The aim of this study was to assess the prevalence and associated risk factors of proteinuria among type-2 diabetic patients in Dhamar governorate, Yemen.

Methods: This was a cross sectional study, spot urine TPCR was performed on 200 diabetic patients attending the diabetic clinics at Dhamar General Hospital and Thamar University Al-Wahdah Teaching Hospital from March 2016 to June 2016.

Results: This study indicated higher prevalence of pathological proteinuria (TPCR \geq 150mg/g of creatinine) 64% of the study population. Estimated urine albumin-to-creatinine ratio (ACR) revealed that 49% of the diabetic patients had microalbuminuria (ACR = 30-300 mg/g) and 25.5 % was estimated as macroalbuminuria (ACR > 300mg/g). Multivariate analysis revealed that hypertension (AOR = 3.44; 95 % C.I:1.57-7.55; $P=$ 0.002) and duration of diabetes of 5-10 or >10 years (AOR = 5.55; 95 % C.I:2.22-13.89; $P <$ 0.001, AOR = 8.88; 95 % C.I: 3.04-24.77; $P <$ 0.001, respectively) were associated with a progressively greater likelihood of pathological proteinuria. However, obesity was unexpectedly showed lower prevalence risks of pathological proteinuria (AOR = 0.15; 95 % C.I: 0.03-0.69; $P=$ 0.015).

Conclusion: The present study revealed that majority of patients with Type-2 diabetes mellitus had diabetic nephropathy. Hypertension, duration of diabetes and obesity are the risk factors associated with diabetic proteinuria. Screening for TPCR and estimation of microalbuminuria will allow early identification of patients with nephropathy, which help in implementing effective interventions to improve management of the risk factors associated with development of diabetic nephropathy.

Keywords: Prevalence, Proteinuria, Diabetic Type 2, Dhamar, Yemen

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Plasma Malondialdehyde, Antioxidative and Lipid Levels in Patients with Cutaneous Leishmaniasis

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Background: In Yemen, cutaneous leishmaniasis (CL) is an important health problem.

Aim: This study was aimed to evaluate the oxidative-antioxidative status of patient with CL and to establish the data base line on biochemical parameters alteration among infected patient.

Methods: This was a case control study carried out in Sharab district, Taiz governorate, Yemen. A total of 150 participants were enrolled in this study. The case group included 99 participants infected with CL (47 males and 52 females). However, the control group included 51 participants non-infected with CL (27 males and 24 females). Serum malondialdehyde (MDA) and uric acid levels, catalase activity, liver function tests and lipid profile were assessed for both groups of the study.

Results: Compared to the control group, the CL case group showed significant increases in the serum MDA and uric acid levels. It is also showed significant decreases in the levels of albumin, total cholesterol, LDL cholesterol and HDL cholesterol compared to the control.

Conclusion: The high MDA level strongly indicated the event of oxidative stress and lipid peroxidation as a mechanism of tissue damage during infection with CL. The results also suggest that decrease in lipid profiles levels may be a valuable information in the diagnosis of the CL besides the clinical and laboratory features.

Keywords: *Cutaneous Leishmaniasis, Malondialdehyde, Lipid Profile, Oxidative-Antioxidative*

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Extended Spectrum Beta-Lactamase among common isolated Gram negative *Enterobacteriaceae* and *Pseudomonas* in Yemen

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Background: To the best of our knowledge, in Yemen, size of endemic and epidemic extended spectrum beta-lactamase (ESBL) producing pathogens and its antibiotic resistance is unknown.

Aim: This study was aimed to investigate the prevalence rate and antibiotic resistance of ESBL in Yemen.

Methods: A nine months cross sectional study was carried out on 285 isolated pathogens from the three major governorates of the country (Sana'a, Aden and Taiz). Bacterial growth was identified according to standard methods. Antimicrobial agent susceptibility was assessed according to the Kirby-Bauer method.

Results: The overall prevalence rate of ESBL producer was found to be 35.4% in Yemen. *Klebsiella pneumoniae* was the most common organisms producing ESBL. High prevalence rate of ESBL-producers was significantly reported in ICU (60.0%, OR= 3.0, $P < 0.003$). A higher rate of ESBL-producing isolates was found in Sana'a (65/148, 43.9%, OR=2.2, $P < 0.002$). *K. pneumoniae* was the main causative agents (40/65, 61.5%), which was significantly higher in Sana'a (OR= 3.7, $P < 0.001$) compared to Aden (17/69, 24.6%) and Taiz (19/68, 27.9%). *Escherichia coli* was the predominant ESBL-producer in Aden (12/35, 34.3%) and Taiz (12/33, 36.4%) governorates. Antibiotic resistance was significantly associated with ESBL producing isolates in all the governorates (OR = 4.0, $P < 0.001$). In this study, the result of comparisons between antibiotic resistance of ESBL and non-ESBL producing isolates revealed that all ESBL isolates were significantly resistant to all tested antibiotics except Imipenem.

Conclusion: *K. pneumoniae* was the most commonly isolated ESBL producer and antibiotic resistance. Inpatients in general and intensive care units in particular are the epicenter of ESBL producing pathogens. Findings of this study can conclude that ESBL producing isolates are responsible for growing the resistance against new generations of beta lactam antibiotics as well as acquired co-resistance to other classes of antibiotics.

Keywords: ESBL producers, Antibiotic resistance, Gram negative *Enterobacteriaceae*, *Pseudomonas*, Nosocomial, Prevalence, Yemen

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Effect of Khat with Diazepam on Liver and Kidney Functions of Albino Rats

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Background: Khat chewing, a common habit in Yemen, is suggested to cause major health problems including liver cirrhosis. Many people use diazepam during chewing khat.

Aim: The present study aimed to investigate the effect of using khat with diazepam on liver and kidney functions of albino rats.

Methods: An experimental design on Albino rats was carried out at the High Institute of Health Sciences, Dhamar, Yemen. The animals were divided into two groups, five rats in each group. The test group was orally administrated with khat extract (500 mg/kg) and diazepam (5 mg /kg), for 30 days. The control group was administrated with distill water. Blood samples was collected from heart for liver function test (GOT, GPT, and ALP) and kidney function test (creatinine).

Results: The results showed a significant ($P < 0.05$) increase in GPT and creatinine among the test group. However, no significant differences in GOT and ALP were reported between the animals' test and control groups.

Conclusion: This study concludes that khat with diazepam have an effect on the liver and kidney of albino rats. Administration of khat with diazepam should be avoided.

Keywords: *Khat, Diazepam, Liver, Kidney, Function test, Yemen*

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Prevalence of Parasitic Infections among Cleaners Working at Public and Private Health Facilities in Dhamar Governorate, Yemen

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Background: Parasitic infections are one of the major health problems in several developing countries including Yemen.

Aim: This study aimed to estimate the prevalence of parasitic infections among domestic workers in public and private health facilities in Dhamar governorate, Yemen.

Methods: It was a cross sectional descriptive study conducted on 210 participants (mean age \pm SD = 27.86 \pm 10.32 years) between September 2017 and August 2018. Samples of feces, urine and blood were examined using direct smears and concentration techniques. Data on parasitic infections and potential risk factors were collected using structured questionnaire.

Results: The overall prevalence of parasitic infections among the study subjects was 79%. The most prevalent parasitic infections were *Entamoeba histolytica/dispar* (57.1%) and *Girardia lamblia* (41.9%). The prevalence of others parasitic infections was found to be 8.1% for *Ascaris lumbricoides*, *Entrobilus vermicularis* (7.1%), *Schistosoma mansoni* (2.9%), *Hymenolepis nana* (1.9%), *Schistosoma haematobium* (1.4%), Hookworms (1.0%) and *Trichomonas vaginalis* (0.5%). However, no parasites in blood samples were detected. Prevalence rate of single, double and multiple infections were 40.5%, 34.8% and 3.8%, respectively. The prevalence of parasitic infections was significantly higher among males than females (82.8% vs. 66.7%, $P = 0.025$) and working duration of one or two years than that of 3-6 to 7-15 years (70.8%, 70.8% vs. 82.1%, 93.1%, $P = 0.022$, respectively). Washing hands after working with water and soap was significantly associated with lower parasitic infection prevalence ($P = 0.010$).

Conclusion: This study concluded that the overall prevalence of parasitic infections among cleaner health workers in Dhamar is high. This reflects poor of personal hygiene, health education among this category which working in critical facilities.

Keywords: Prevalence, Parasitic Infections, Cleaners, Health Facilitates, Dhamar, Yemen

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Diabetes Mellitus: The Role of Oxidative Stress and Antioxidants

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Background: Diabetes mellitus is a group of metabolic disease characterized by hyperglycemia. Oxidative stress contributes to the pathogenesis of diabetic microvascular and macrovascular complications.

Aim: This study was undertaken to find the oxidative stress and antioxidant conditions in diabetic and healthy individuals.

Methods: A case-control study carried out at Kantipur Dental College Teaching hospital & Research center, Kathmandu, Nepal from January 2018 to January 2019. A total of 200 subjects were selected in this study. Among them 100 were diagnosed as diabetic individuals and rest 100 were healthy controls with age and gender matched. Blood samples were drawn after overnight fasting for the analysis of glucose, thiobarbituric acid reactive substances (TBARS), lipid hydroperoxides, nitric oxide, total antioxidant activity, vitamin A, vitamin C, vitamin E, reduced glutathione, glutathione peroxidase, superoxidase and catalase.

Results: The plasma glucose, lipid peroxidation parameters: TBARS, lipid hydroperoxide and nitric oxide were increased in diabetic patients. Antioxidants markers including total antioxidant activity, reduced glutathione, vitamins A, C & E levels were significantly decreased in diabetic patients compared to healthy control counterpart.

Conclusion: Increasing evidence of free radicals/oxidative stress with respect to decreased levels of antioxidants has implicated a strong role in progression of diabetes and its associated complications. Proper medications with antioxidants supplementation, physical exercise, and restricted diet can improve diabetes through the reduction of oxidative stress.

Keywords: *Diabetes Mellitus, Free Radicals, Oxidative Stress, Antioxidant, Vitamin*

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Free Radicals and Their Impact on Health

Daiekh Abed Ali Abod^{1*}

Review: Free radicals are highly reactive chemicals that are involved in the oxidation reactions .they are formed in our body and causes many diseases as a result of their oxidative effect. Reactive nitrogen and oxygen alter lipids, proteins, and DNA if not regulated by suitable antioxidants. In this conference, many aspects of dangerous roles of free radicals will be discussed including the mechanism in which they damage cells causing cancer and aging.

Keywords: *Free Radicals, Health, TUFMHS 2ND Annual Medical Conference*

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Civilian Gunshot of the Abdomen at Hajjah Governorate in Yemen

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Background: Civilian gunshot injuries become a global problem that constitute enormous emotional, physical, financial and social burden. In Yemen, the true magnitude of this problem has not explored yet.

Aim: The purpose of this study is to identify the pattern of injuries and evaluate treatment outcome.

Methods: All patients operated on for penetrating gunshot of the abdomen in Saudi hospital at Hajjah governorate from June 2012 to September 2015 were included. Data of patients were prospectively recorded and analyzed to identify the pattern of abdominal gunshot injuries and evaluate the management outcome. Patients assigned to observation were excluded.

Results: Eighty five patients were enrolled. They were 71 men and 14 women with age ranging from 10 to 60 years. Small bowel were the most common affected organ, in 52 patients (61.1%) followed by the colon in 24 patients (28.2%), then diaphragm in 19 patients (22.3%) and then comes the liver in 15 patients (17.8%). Spleen, kidneys, great vessels, and rectum were at 11.7%, 9.4%, 8.2%, and 5.9% respectively. Duodenum, pancreas, and urinary bladder were the least affected organs, 2 cases for each. Forty patients (47%) had bullets' entrance through anterior abdominal wall. Personal conflicts and tribal clashes were the leading events of abdominal gunshot, 48 cases (56.4 %) followed by festival celebrations, 9 cases (10.5%). The commonest surgical procedures performed were resection and anastomosis for small bowel, resection, and colostomy for the colon and primary repair for diaphragmatic injury. Splenectomy was performed in 6 patients, partial gastrectomy in 5 patients, and nephrectomy in one patient. Chest tubes were inserted in 44 patients. Postoperative complications were recorded in 35 patients (41.1%). The death rate was at 8.2%. Wound infection was recorded in 16 patients.

Conclusion: Small bowel was the most common organ involved by gunshot, followed by colon, diaphragm and liver respectively. Duodenum, pancreas, and urinary bladder were the least. The majority of patients were injured during personal conflicts or tribal clashes. Lack of sufficient laws governing the firearms possession and easy access to weapons without restriction is the primary cause of the problem. Therefore, serious regulations of the use of firearms to settle disputes and strict enforcement of laws to combat this trend are extremely important and needed.

Keywords: *Abdominal Gunshot, Pattern, Management Outcomes*

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Prevalence and Genotyping of Hepatitis C Virus in Hemodialysis Patients and Evaluation of HCV-Core Antigen Test in Screening Patients for Dialysis in Sana'a City, Yemen

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Background: Hepatitis C virus infection is a constant worldwide public health concern. The prevalence of HCV infection is higher in patients on chronic haemodialysis (HD) than in the general population. Despite the control of blood products, hepatitis C virus transmission is still being observed among patients undergoing dialysis. Detection systems for serum HCV antibodies are insensitive in the acute phase because of the long serological window. Direct detection of HCV depends on PCR test but this test is not suitable for routine screening.

Aim: The objective of this study was to determine prevalence of HCV, genotyping and if HCV core antigen test could be a better alternative to NAT techniques for the diagnosis of HCV infection during the window period and whether the sensitivity for antibody detection is preserved.

Methods: We screened 159 patients on long-term dialysis by HCV antibodies test, PCR HCV-RNA and HCV core antigen test by commercial tests.

Results: The prevalence of HCV was 10.7% (17 patients) and genotype 4 was the most common one (64.7%). The sensitivity of HCV core antigen test was 94.1%, the specificity 100%, the positive predictive power 100%, and the negative predictive power 97.9%.

Conclusion: In conclusions; patients on maintenance HD in Yemen have a high prevalence of HCV infection comparing with general population; and genotype 4 is predominant. The performance of serological detection of HCV core antigen was better than that of HCV antibodies test and may be an alternative to nucleic acid amplification technology (NAT) for routine monitoring of patients on chronic dialysis.

Keywords: Hemodialysis, Hepatitis C Virus, Genotype, HCV Core Antigen, HCV Antibodies, PCR HCV-RNA, Yemen

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Bionomics of Phlebotomine Sandflies at Dhamar City and Neighboring Districts, Yemen

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Background: Phlebotomine sandflies (Diptera: *Psychodidae*) are small blood-feeding insects of great medical and veterinary significance. Phlebotomine sandflies have long been incriminated as vectors of leishmaniasis in various parts of world.

Aim: The main aim of this study was to identify, determine the relative abundance, seasonal distribution and density of phlebotomine sandflies species in Dhamar city and neighboring districts, Dhamar governorate, Yemen.

Methods: An entomological study was carried out in Dhamar city and neighboring districts from December 2007 to January 2008. A total of 1007 flies were collected from different parts of the study area. Flies were sampled monthly between December 2007 and January 2008 using sticky traps "Oiled paper" and CDC miniature light traps. Sandflies specimens were identified morphologically using key characters such as pharynx and spermathecae of females and male genitalia.

Results: The results of this study revealed that the sticky traps captured 51.4 % of the total sandflies collected, while CDC light captured 48.6%. Out of 1007 specimens examined, 630 (62.6%) and 377(37.4%) were males and females with sex ratio (1.67:1), respectively. Three species of sandflies were identified and all belong to the genus *Phlebotomus*. The species identified with their relative abundance were *P. arabicus* (44.1%), *P. alexandri* (35.2%), and *P. sergenti* (20.7%). The highest flies abundance was recorded in Utmah district (34.1%), whereas the lowest was in Dhamar city (0.7%) district. Positive correlation was observed between sandfly numbers and rainfall, the sandflies population density was increased with the beginning of the rainy season and reached the peak in July (22.01%) then declined to its lower level in December 0.4%).

Conclusion: The present study concludes that phlebotomine sandflies are prevalent in the study areas. Findings of this study are useful for designing control program for combating sandflies and leishmaniasis in Dhamar governorate.

Keywords: Abundance, CDC Light Trap, Phlebotomine Sandflies, Sticky Trap, Dhamar

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Frequency and Molecular Characteristics of Extended Spectrum Beta-Lactamase in Yemen

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Background: Members of the family Enterobacteriaceae commonly express plasmid-encoded β -lactamases (e.g., TEM-1, TEM-2, and SHV-1) which confer resistance to extended spectrum Beta-Lactam penicillins and cephalosporins.

Aim: The present study was designed to estimate the prevalence of TEM, SHV, and CTX-M ESBL genes among common isolated *Enterobacteriaceae* and *Pseudomonas*.

Methods: A nine months cross sectional study was carried out on 285 isolated pathogens from the main three major of Yemen governorates. Bacterial growth was identified according to standard methods. Entire CTX-M, SHV and TEM genes type were identified using PCR. Antimicrobial agent susceptibility was assessed according to the Kirby-Bauer method.

Results: A total 134 of blaTEM, blaSHV and blaCTX-M genes were identified among 97 phenotyping ESBL producing pathogens as a single gene or accompany with others ESBL type genes. The prevalence of CTX-M was found higher among ESBL isolates (73/97, 75.3%), followed by TEM (49/97, 50.5%) and SHV (15/97, 15.5%). Frequency (%) of *Escherichia coli* harbouring CTX-M, TEM and SHV genes was found to be 86.0%, 44.2% and 4.7%, respectively. Similarly, the rate of *Klebsiella pneumoniae* carrying such genes was 66.7% (CTX-M), 56.9% (TEM) and 25.5% (SHV). Accordingly, CTX-M harboring isolates exhibited high resistance to Cefotaxime (84.9%) than Ceftazidime (58.9%). Similar result was also obtained among TEM and SHV-harboring isolates. On the other hand, the difference in the resistance of SHV as compared to TEM and CTX-M ESBL genes for Ceftazidime and Cefepeme was found to be statistically significant (OR = 3.9; $P < 0.018$, OR = 4.4; $P < 0.046$, respectively). Less resistance (53.4%) and decreased risk (OR=0.7) among CTX-M-producers for Amoxiclavate were reported. The rate of resistance was significantly increased among SHV producers (86.7%, OR = 6.5, $P < 0.009$) compared to others ESBL genes.

Conclusion: This research is the first study to report the prevalence of TEM, SHV and CTX-M ESBL type genes in Yemen. The resistant of ESBL genes harboring isolates varies according to isolated strains and accompanies with others genes.

Keywords: Yemen, TEM, SHV, CTX-M, ESBL genes types, antibiotic resistance, Enterobacteriaceae, Escherichia coli, K. pneumoniae, Pseudomonas

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***In Vivo* Comparison between Aspirin and Some Herbal Extracts on Blood Coagulant and Liver Function**

Ashwaq Abdullah Al-Mahdi^{1*}

Background: Anticoagulants are important standard therapies used to prevent of cardiovascular disease.

Aim: The aim of present study was to investigate the effect of aqueous extracts of *Ginkgo bilabial*, *Crataegus azarolus* and *Origanum majorana* in comparison with aspirin on blood coagulant and liver function tests in rabbits.

Methods: It was a comparative study on animals (rabbits) carried out at the High Institute of Health Sciences, Dhamar, Yemen. The animals were divided into six groups: group one was given distill water as a negative control; group two was given *G. bilabial* extract (1 g/kg); group three was given *C. azarolus* extract (0.9 g/kg); group four was given *O. majorana* extract (1.3 g/kg); group five was given a mixture of *G. bilabial*, *C. azarolus* and *O. majorana* extracts (4.1 g/kg); and group six was given Aspirin as a positive control (1.07 g/kg). All the animals groups were orally administrated once a day for 21 days. Then, bleeding time, clotting time and prothrombin time tests as well as liver function tests (GOT, GPT, and ALP) were performed for all the rabbits groups.

Results: In comparison with the negative control, the bleeding time and clotting time significantly decreased in the extracts mixture ($P < 0.001$, $P < 0.01$, respectively). Prothrombin time significantly decreased in the *G. bilabial* and *C. azarolus* groups ($P < 0.05$). However, no significant results were reported on liver function tests for the herbal extract used in this study.

Conclusion: This study reveals that herbal extracts of *G. bilabial*, *C. azarolus* and *O. majorana* are effective anticoagulant agents comparable with Aspirin. Novel anticoagulant components could be isolated from these herbs.

Keywords: *Aspirin*, *Ginkgo bilabial*, *Crataegus azarolus*, *Origanum majorana*, *anticoagulants*, *Yemen*

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Epidemiology and Outcome of Acute Bacterial Meningitis among Children in Saudi Hospital Hajjah, Northwest Territories of Yemen

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Background: Acute bacterial meningitis is continuing as a serious health problem among children.

Aim: The aim of this study was to assess the etiology and outcome of acute bacterial meningitis among children in Saudi Hospital Hajjah.

Methods: This was a retrospective descriptive study carried out at Saudi Hospital Hajjah between July 2016 and December 2017. This study included all children aged one month to 12 years who had symptoms and signs suggested acute bacterial meningitis confirmed by lumbar puncture of cerebrospinal fluid for cells, biochemistry, and culture. The data of all patients were retrieved from the hospital records and patient's charts. These data included age, clinical presentation, etiologic microorganism, and outcome.

Results: A total of 196 patients who had confirmed bacterial meningitis was recorded. Of these, 71 patients (36.2%) were aged under 12 months, 25% aged between 1-2 years old, 17.9% between 3-5 years, and 20.9% > 5 years. Cerebrospinal fluid culture was positive among 94.9% of patients. Among the positive isolates, 43.5% were having *Neisseria meningitidis*, 34.9% *Streptococcus pneumoniae*, 18.2% *Hemophilus influenzae* type b, 2.7% group B *Streptococci* and 0.5% *Escherichia coli*. There were 19 patients died giving the case fatality rate as 9.7%. Of those, 47.3% had aged less than 12 months, 31.5% aged 1-2 years, one child (5.2%) aged 4 years, and three cases (15.8%) were > 5 years. Eleven cases of deaths (57.9%) had *S. pneumoniae* infections. There were 24 patients (12.2%) of survivors developed neurological complications.

Conclusion: This study demonstrates that there is no change in the epidemiology of the main causes of acute bacterial meningitis among children compared to that reported prior to introduction Hib and pneumococcal vaccines indicating a limited coverage of vaccination in the Northwest Territories of Yemen. The case fatality rate noted in this study is relatively low, but aggressive efforts by the health care system both to vaccinate and to early treat infected children, meningitis incidence, and mortality will decline.

Keywords: Acute Bacterial Meningitis, Vaccine, Yemen

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Outcome of Transfer Flexor Carpi Ulnaris and Palmaris Longus Tendons for Hand Deformity in Persistence Radial Nerve Palsy

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Background: Restoring the hand function and strength following radial nerve injuries is a serious medical challenge.

Aim: The aim of our study is to evaluate the functional outcome of transfer flexor carpi ulnaris (FCU) and palmaris longus (PL) for patients with persistence radial nerve palsy by minimal tendon transfer technique.

Methods: The study included 10 patients; eight male and two female with mean age of 25 years (range 20-30 years). They underwent transfer of FCU and PL tendons for patient with persistence radial nerve palsy, the duration of outcome of tendon transfer after radial nerve injury evaluated after one year. Clinical evaluation included wrist joint range of movement by Goniometry compared with the contralateral normal side.

Results: The average ranges of wrist movements were as the follows: the mean wrist flexion was 52° (range 46°-56°), the mean wrist extension was 34° (range 30-38), radial deviation 18° (range 16°-20°) and ulnar deviation 21° (range 18-23). The mean extension of the fingers in wrist extension was 7° (range 5°-10°) and in wrist neutral position was 12° (range 9°-16°). The mean abduction of the thumb was 38° (range 35°-44°). In comparison to the measure of joints in the contralateral normal hand, the final extension of the wrist was less, but extension of the fingers and MCP joints was similar to that of the normal hand. All of the patients in this study were able to extend their fingers with the wrist in the neutral position. Thumb abduction and extension was sufficient to deal with daily activities and, even, heavy jobs in most of the patients. Postoperative follow up of the patients was ranged (12-24) months. After 45 days, 80% of the patients were able to do the normal non heavy daily work. In 20% of cases, recovery was not progressing satisfactorily at 5 weeks. These were referred to physiotherapy for a planned exercise program, which the two patients improved their movements.

Conclusion: The FCU & PL tendons transfer has some advantages over the other techniques, short duration of operation time, no morbidity; improve range of motion of hand and less surgical scares. It is a viable option to restore hand function and strength following radial nerve injuries.

Keywords: Persistence Radial Nerve Palsy, FCU and PL Tendon Transfer, Minimal Technique

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Prevalence of Hyperprolactinemia among Infertile Women in Dhamar Governorate, Yemen

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Background: Hyperprolactinemia is one of the common endocrinological disorders affecting fertility by causing anovulatory cycles, luteal phase defect, and sex hormone imbalances. In Yemen, there is little information about this significant health problem.

Aim: This study aimed to evaluate the prevalence of hyperprolactinemia among infertile female after excluding other factors that leading to infertility.

Methods: It was a retrospective record-based study conducted on 308 infertile females aged 15-45 years attending the gynecologist clinics at private dispensers in Dhamar governorate between March 2016 and March 2018. The collected data included medical history, ultrasound findings, and prolactin hormone results.

Results: The results showed 170 (55.2%) have primary infertility and 138 (44.8%) have secondary infertility. Overall prevalence of hyperprolactinemia was 19.5% (serum prolactin > 29 μ g/L).

Conclusion: This study concludes that the prevalence of hyperprolactinemia is high among infertile women in Yemen.

Keywords: Prevalence, Hyperprolactinemia, Infertility, Dhamar, Yemen

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Planned Complex Suicide: An Unusual Suicide by Hanging and Gunshot

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Case Report: We report a case of planned complex suicide (PCS) by a 74-year old man. He was found dead hanging by his neck, with a shot in his head. The investigation of the scene, the method employed, all together pointed toward a suicidal etiology. The autopsy findings confirmed vital signs of hanging. The main difference between PCS and those cases defined in the medico legal literature as combined suicides lies in the complex mechanism used by the victim as a protection against a failure in one of the mechanisms. The aim of this rare report is to attract attention of forensic medicine doctor to this rare case possible encounter in field of practice especially in the scene.

Keywords: *Complex Suicide, Hanging, Gunshot Wound*

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Obstructive Sleep Apnea Treatment: Maxillofacial Surgery Approach

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Review: Sleep apnea is a serious and potentially life-threatening disorder if left untreated. Sleep apnea treatment often involves a team of healthcare providers, including dentists, general physicians, maxillofacial, head and neck surgeons and sleep specialists. There are three types of sleep apnea, including obstructive apnea (OSA), central apnea and a combination of the two. The most common type of sleep apnea is OSA. The first step, in managing OSA in most cases is weight loss. Excess body fat, thick neck circumference, double chin, hypertrophic tongue, and many other related tissue abnormalities are associated with obesity. Other Non-surgical approaches including the using of CPAP, BiPAP (Bi-level Positive Airway Pressure), and other more advanced devices that act as pneumatic stents. Dental or oral appliances could play an important role at this level of treatment. Surgical procedures that designed to open the airway or aimed at reshaping rather than bypassing the upper airway can be very beneficial in the treatment of obstructive sleep apnea and snoring. The next set of interventions includes surgical procedures designed to address the diagnosed areas of obstruction. This step may involve one individual surgical site or multilevel surgery that involves several procedures. From a maxillofacial point of view, the main surgical procedures for the treatment of sleep apnea are genioglossus advancement, advancement genioplasty, distraction osteogenesis, and maxillo-mandibular advancement. In conclusion, oral and maxillofacial surgery plays an essential role in the multidisciplinary care of patients with obstructive sleep apnea.

Keywords: *Obstructive Sleep Apnea, Maxillofacial Surgery, Yemen*

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The Concept of Total Quality of Medicines: A review

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Background: Yemeni drug market is open according to the law and consequently the non-research bases companies occupied the market to about more than 95%. The drug companies can be classified into three classes; innovators (original), intermediate and packaging companies. The brands drugs and generic names that have been registered and available in Yemeni market are more than twenty-five thousand.

Aim: The aim of this review was to determine the criteria that make the physicians, dentistry, veterinary prescribe medicines in light of safety, efficacy, quality and accepted price.

Methods: The method of this study was to review the most important criteria that achieve the drug safety, efficacy, quality and accepted price. Before 1980, the criteria of medicines included physicochemical tests such as disintegration, dissolution, and chemical assay for tablets and capsules. Again, the criteria for liquid preparations required physical tests such as viscosity, pH, and chemical assays. And after 1980, in addition to the previous criteria, the FDA, and WHO necessitates the bioequivalence, drug stability, and toxicities studies for tablets, capsules and suspensions. The other dosage forms such as liquid preparation, and semisolid dosages required drug stability and toxicities studies.

Results: The drug safety, efficacy, quality can be achieved according to update criteria by bioequivalence, drug stability and toxicities studies for solid dosage form, while drug safety, efficacy, quality can be achieved by drug stability, and toxicities for other dosage form such as liquids and semisolid dosage forms.

Conclusion: The physicians, dentistry, and veterinary whose prescribe the medicines must be able to differentiate between the innovators, intermediate and packaging companies that produced medicines. Bioequivalence, drug stability, and toxicities studies are the advanced criteria for safety, efficacy, and quality of medicines. These parameters are the best way to decrease the failed of processing treatment. Again, the generic drugs are considered copy of innovators and they must be bioequivalent to meet criteria and hence decrease the cost of therapy.

Keywords: *Bioequivalence, Stability, Quality, Safety, Efficacy Accepted Price*

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Faculty Research Abstracts

Knowledge, Attitude and Practice on Malaria in Dhamar Governorate, Yemen

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Background: Despite continuous efforts carried out against malaria in Yemen, it is still a major health problem.

Aim: This study was aimed to investigate the knowledge, attitude and practices (KAP) about malaria in Dhamar governorate, Yemen.

Methods: A descriptive cross-sectional survey was conducted on patients and their relatives visiting the outpatient clinics at Thamar University Al-Wahda Teaching Hospital (TUWTH) in Maabar city. A total of 293 subjects participated in this KAP survey. Data was collected using a pretested questionnaire.

Results: The results showed that knowledge of the participants about the causative agent of malaria and its mode of transmission was inadequate. However, the educated participants showed higher knowledge about malaria symptoms, attitudes towards its severity, and practice of different preventive measures than non-educated participants did.

Conclusion: Introducing efficient health education to people living in malaria endemic areas would enhance malaria prevention and support the control efforts in the country.

Keywords: *Malaria, KAP, Dhamar, Yemen*

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Awareness on Basic Life Support among Thamar University Medical Students, Dhamar governorate, Yemen

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Background: Basic life support (BLS) refers to the skills that require few tools to save lives of the victims of cardiac or respiratory arrests. All healthcare providers are required to master these skills in order to maximize the care to those who experience such emergencies.

Aim: This study aimed to assess the knowledge and attitude toward BLS among the 4th, 5th, and 6th year MB ChB students at Thamar University Faculty of Medicine and Health Sciences (TUFMHS), Dhamar governorate, Yemen.

Methods: This was a cross-sectional survey conducted between January and February 2019. The data was collected using pretested questionnaire.

Results: Out of 266 students participated in the study, 169 (63.5%) were males, and 91(36.5%) females. Students who had scored less than 50% were 231 (86.8%), while who had scored equal or more than 50% were 35 (13.2%).

Conclusion: The study showed poor essential knowledge toward BLS among Thamar University medical students. Regular BLS courses should be introduced within undergraduate curriculum to increase the level of BLS knowledge among Yemeni future physicians.

Key words: *Basic Life Support, Students, Knowledge, Attitude. Yemen*

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Urinary Tract Infection and its Relation to Culture among Adolescent Schoolgirls in Dhamar City, Yemen

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Background: Urinary tract infection (UTI) is very common among females in all age groups. During adolescence, hormonal changes favor vaginal colonization by nephritogenic strains of bacteria that cause urinary tract infection.

Aim: This study aimed to evaluate the prevalence of UTI among adolescent girls in public schools in Dhamar city, and its relation to cultural thoughts about school toilets, in hope to change these thoughts and improve hygienic services in those schools.

Methods: In the study, 261 adolescent students participated. A questionnaire to obtain demographic, socioeconomic profile, clinical manifestation, practice was used. Investigation included general urinalysis for midstream clean catch urine sample.

Results: The overall prevalence of UTI found to be 29.1%. Sixty eight percent (68.2%) of girls noted to avoid entrance to school bathrooms. Parents warning against using the school bathrooms reported in 34.5%. Fear from the presence of camera in bathrooms was reported in 33.7%. Girls retained urine for long time was 29.9%. Lack of hygiene was reported in 85.1% of the participants. Wrong practice of wiping was stated by 13.4%, as they wipe from back to front. The most common symptom was urgency, which was indicated by 39.1% of the girl followed by lower abdominal and back pain, recurrent fever, incontinence, bad urine odour, cloudy urine, and dysuria.

Conclusion: Urinary tract infection is a common problem in adolescent school girls which result in many complications and may lead to loss of school. Inadequate hydration, lack of clean toilet, poor personal hygiene, wrong believe of girls and their parents about school toilets, all predispose schoolgirls to urinary tract infection.

Keywords: *Urinary Tract Infection, Schoolgirls, Culture, Yemen*

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Prevalence and Risk Factors of Small for Gestational Age in Dhamar Governorate, Yemen

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Background: The birth weight and gestational age at birth are two important variables that define neonatal morbidity and mortality. Small for gestational age (SGA) commonly identified as a proxy for intrauterine growth restriction (IUGR). This disorder has been associated with neonatal mortality and morbidity as well as with major medical problems across the life course. SGA is associated with a broad number of genetic, obstetric, demographic, and socioeconomic factors as well as maternal morbidities and toxic exposures before and during pregnancy.

Aim: The aim of the study was to estimate of the prevalence and associated risk factors of SGA among neonate in Dhamar Governorate, Yemen.

Methods: It was a cross sectional study conducted between March and August 2018. A total of 200 babies born alive for mothers delivered at Tamar University Al-Wahda Teaching Hospital (TUWTH) were recruited in this study. Information on socio-demographic and medical history of mothers as well as general physical examinations for mother and her baby were collected using semi-structured questionnaire.

Results: Prevalence of SGA was 61.5% (123/200), while the appropriate for gestational age was 77 (38.5%). Prevalence of SGA birth was higher among mothers who had previous history of SGA (76.1%; 35/46) compared to who had not (57.4%; 88/154). A higher prevalence rate of SGA observed among full term babies (65%; 117/180) than pre term babies (26.3%; 5/19). Prevalence of SGA birth was higher among mothers who had previous history of stillbirth compared to who had not (72.5%; 37/51 vs. 57.7%; 86/149, respectively).

Conclusion: Prevalence of SGA among neonate in Dhamar city is high. There was significant relationship between the previous maternal history of SGA birth or gestational age or previous maternal history of stillbirth and the observed SGA births.

Keywords: Prevalence, Small for Gestational Age, Maternal, Dhamar, Yemen

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Catheter-Associated Urinary Tract Infection among Patients Attending Hospitals in Dhamar Governorate, Yemen

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Background: Urinary tract infections (UTIs) most commonly affect either the lower urinary tract or, less frequently, the upper urinary tract. The main problems caused by urinary catheters are UTIs in the urethra, bladder or, less commonly, the kidneys.

Aim: This study aimed to estimate the prevalence of catheter-associated urinary tract infection (CAUTI) among patients in Dhamar hospitals, Yemen.

Methods: A model of CAUTI established by descriptive hospital-based study conducted at Dhamar Hospitals, Dhamar Governorate, Yemen. It has not directed to specific age group, specific educational level, or specific economic status. Urine specimen was collected from 60 cases after at least two days from date of inserting the device. The pathogenic microbes were isolated and identified in the Microbiology laboratory of Thamar University Faculty of Medicine and Health Sciences (TUFMHS).

Results: Out of the 60 cases enrolled in this study, 48.3 % were males and 51.7% were females. The overall prevalence of CAUTI was 23.3% (14/60). The most common isolated pathogens were *Klebsilla* species (35.7%) and *Staphylococcus saprophytics* (35.7%) followed by *S. aureus* (14.3%) and *Pseudomonas* species 14.3%.

Conclusion: CAUTI is an important device-associated health care acquired infection. Infection control programs must develop, implement, monitor policies and practices to minimize infections associated with use of these devices. A major focus of these programs should be to limit the use of indwelling urethral catheters and to remove catheters promptly when no longer required.

Keywords: Prevalence, CAUTI, Dhamar, Yemen

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Prevalence and Predictors of Proteinuria among Pregnant Women in Dhamar Governorate, Yemen

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Background: Proteinuria refers to medical condition in which the urine of a patient has high abnormal content of proteins. The incidence of proteinuria arising in pregnancy varies according to physical and medical conditions.

Aim: This study aimed to evaluate the prevalence and potential predictors of proteinuria among pregnant women in Dhamar governorate, Yemen.

Methods: It was a cross sectional study carried out at Reproductive Health Centre, Dhamar city, as well as at Tamar University Al-Wahda Teaching Hospital (TUWTH), Maabar city. Three hundred (300) pregnant women randomly selected between January and July 2018. Data was collected using semi-structured questionnaire included socio-demographic characteristics and clinical history of pregnant women. Spot urine analysis used to detect the proteinuria; a concentration higher than 300 mg/day considered as pathological proteinuria.

Results: Of the 300 pregnant women, 16.3% had a pathological proteinuria, 58.7% had proteinuria within range 100 - 300 mg/day, and 25% had normoproteinuria. Multivariate analysis revealed that the following variables as significant predictors for higher prevalence risks of pathological proteinuria: urban residence (PR: 2.77; 95% CI: 1.46-5.26; $P = 0.015$) and gravidity ≥ 5 or 2-4 (PR: 3.64; 95% CI: 1.17- 11.31; $P = 0.025$, PR: 3.00; 95% CI: 1.01-9.03; $P = 0.05$, respectively). On the other hand, low income associated with lower prevalence risks (PR: 0.14; 95% C.I: 0.05-0.40; $P < 0.001$). The study indicated that pathological proteinuria started to appear at the second trimester.

Conclusion: To the best of our knowledge, this is the first study in Yemen to reveal the prevalence and predictors of proteinuria among pregnant women in Dhamar governorate.

Keywords: Proteinuria, Pregnant Women, Yemen

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Seroprevalence of Toxoplasmosis among Pregnant Women Attending Prenatal Clinics in Dhamar District, Yemen

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Background: Toxoplasmosis is one of the *TORCH's infection in pregnant women. It infects about one-third of the world's population with seropositivity rates ranging from less than 10% to over 90%. Although its worldwide burden, it often remains unrecognized, as most patients are asymptomatic.

Aim: This study aimed to estimate the seroprevalence of toxoplasmosis among pregnant women attending prenatal clinics at a private hospital in Dhamar district, Yemen.

Methods: It was a facility based cross sectional study with a systematic random sampling procedure. A total of 307 pregnant women participated. Sera were tested for anti-*Toxoplasma gondii* IgM & IgG using Enzyme Linked Immunosorbent Assay ELISA test. Data was collected using a pretested semi-structured questionnaire through face-to-face interviews with the study subjects.

Results: This study revealed that 49.2% (151/307) were positive of *T. gondii* antibodies (IgG or IgM or both them). About 36.8% of pregnant women were IgG positive, 8.1% were IgM positive, and 4.2% were seropositive of both IgG and IgM.

Conclusion: This study confirms that toxoplasmosis is continuing as a prevalent health problem among the study population. Hence, it's needed to increase the efforts in diagnosis.

Keywords: Prevalence, Toxoplasmosis, Pregnant Women, Yemen

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Cytomegalovirus Infection among Women with Previous History of Abortion in Dhamar District, Yemen

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Background: Cytomegalovirus (CMV) is an enveloped DNA virus from *Herpesviridae* family. It is the most common cause of congenital infection. CMV is more widespread in developing countries and in communities with lower socioeconomic status.

Aim: The aim of the study was to estimate the prevalence of CMV infection among women with history of previous abortion and to detect the relation between CMV infection and abortion in women.

Methods: The study was retrospective study getting data from patient's files (299 cases) of pregnant and non-pregnant women aged 15 – 45 years. It carried out in the period from December 2017 to January 2019 among those attending public and private dispensaries and hospitals in Dhamar district, Yemen.

Results: The results showed that the seroprevalence of CMV IgG and IgM antibodies were 99.3% (297/299) and 3.7% (11/299), respectively. There was no significant association between the previous abortion and serological results of CMV IgG or IgM antibodies.

Conclusion: The high seroprevalence of CMV IgG and the low seroprevalence of CMV IgM among women with previous history of abortion in Dhamar city are similar to other results reported from other developing countries.

Keywords: Prevalence, Cytomegalovirus Infection, Pregnant Women, Yemen

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Knowledge, Attitude and Practice on Measles among Children's Mothers Attending Public Hospitals in Dhamar Governorate, Yemen

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Background: Measles is caused by a highly contagious pathogen known as measles morbillivirus (formerly measles virus). In some areas of the world, measles remains a serious threat to children particularly those of less than five years old.

Aim: This study was to provide basic information on the knowledge of measles among children's mothers in Dhamar governorate, Yemen.

Methods: A descriptive cross-sectional survey carried out at Thamar University Al-Wahda Teaching Hospital (TUWTH) in Maabar city and Dhamar General Hospital in Dhamar city between August 2018 and February 2019. Four hundreds (400) mothers participated in the study where convenient sampling method was used. Data was collected using a semi-structured questionnaire included socio-demographic of the participants and their knowledge, attitude and practices toward measles.

Results: The previous history of measles infection was significantly higher among rural than urban children (56.5% vs. 45.2%, respectively). Although 86.8% of participants had knowledge about measles as a disease, only 32.8% and 34% of them had knowledge about the causative agent and mode of transmission, respectively. However, the vast majority reported rash (93.5%) and fever (92.8%) as symptoms of measles. About two thirds (69.8%) showed positive attitude on the role of authorized organizations in controlling the disease. The results also showed poor practices on treatment seeking behaviors; only 13% to 30% of the participants seek treatment from clinics or hospitals in the first 24 hours of fever onset.

Conclusion: This study showed low knowledge about the cause of measles and mode of its transmission and poor practices on treatment seeking behaviors. Introducing an educational program about this highly contagious disease is highly recommended.

Keywords: KAP, Measles, Mothers, Dhamar, Yemen

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Vaccine Storage Practices: A descriptive Study in Dhamar District, Yemen

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Background: Immunization is an important means of controlling serious infectious diseases. Careful attention to vaccine storage is essential to ensure optimal vaccine effectiveness.

Aim: This study aimed to assess the vaccine storage practices among public health clinics in Dhamar district, Yemen. World Health Organization (WHO) vaccine storage criteria were followed when possible.

Methods: This study was a descriptive study conducted on ten primary healthcare centers. Essential criteria of vaccine storage were recorded. Information on the age, medical education and experience of the health personnel working at those facilities were also reported.

Results: The finding revealed that the availability of dedicated refrigerator and maintenance of refrigerator temperature between 2-8 C° was observed in 80% of these centers. Daily monitoring of internal refrigerator temperature was reported in only 60% of the study sample. Availability of electricity generator supply was observed in two centers; seven health centers depend on solar energy; and only one health center used Gas. All health centers did not use thermometer in coolers during vaccine transport. Twenty three health personnel were interviewed; 52% aged >35 years, 70% female. 13% had no health education.

Conclusion: This study concludes that vaccine storage practices are obviously reduced. Such shortage could lead to an expansion in the morbidity and mortality rates in Yemen, due to vaccine preventable diseases.

Keywords: Vaccine Storage Practices, Health Personnel, Dhamar, Yemen

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Traditional Medicines for Diarrhea in Dhamar City, Yemen

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Background: Diarrhea causes significant morbidity and mortality particularly among children less than five years. In Yemen, traditional medicines are used in treating many illnesses including diarrhea. However, few data about such medicines are available.

Aim: This study was aimed to report the traditional medicines used by traditional healers to treat diarrhea in Dhamar city, Yemen.

Methods: This study included oral interview with traditional healers about their knowledge about causes of diarrhea, remedies used, methods of preparations and prescriptions.

Results: A total of 30 traditional healers were recruited in this survey. Majority of the healers (86.4%) thought that diarrhea is mainly caused by eating contaminated food. Various remedies used either alone or in combination with garlic (31.8%), cumin (27.8), chamomile (22.7%), and yogurt (36.7%). Fresh or dried plant materials extracted in boiling water (63.6%) or mixed with yogurt (59.1%). Treatment by holy Quran reading also reported. About 77.4% of the traditional healer rejected the use of other medical drugs; only 9% of them advice their patients to seek alternative treatment at hospital or outpatient clinic if diarrhea does not subside.

Conclusion: This study showed that the practice of traditional medicine is common in Dhamar city with using a variety of plants, foods, remedies for treating diarrhea.

Keywords: *Traditional Medicine, Diarrhea, Healers, Dhamar, Yemen*

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Enterobiasis among Yemeni Children

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Background: Enterobiasis, caused by *Enterobius vermicularis*, is a worldwide intestinal parasitic disease particularly among children. To the best of our knowledge, this study is the first to investigate the prevalence of this infection in Yemen.

Aim: This study aimed to assess the prevalence of *E. vermicularis* infection among Yemeni children in Dhamar governorate, Yemen.

Methods: A cross-sectional survey was carried out between October and November 2018. Children visiting Tamar University Al-Wahda Teaching Hospital (TUATH) outpatient clinics participated in this survey. The adhesive cellophane-tape perianal swab method was used. All children's parents were consented and their participation was completely free.

Results: The results showed high prevalence of *E. vermicularis* infection among the children.

Conclusion: This study indicates that the prevalence of *E. vermicularis* infection among Yemeni children is obviously high but comparable to that reported in some developing countries.

Keywords: Enterobiasis, Prevalence, Children, Yemen

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Ocular Disease and Visual Impairment among Patients Coming to Dhamar Ophthalmic Clinics, Yemen

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Background: Ocular diseases and visual impairment have socioeconomic impacts on societies all over the world. It has major challenges to most of the developing countries.

Aim: This study aimed to estimate the prevalence and risk factors of ocular diseases and visual impairment among patients attending the ophthalmic clinics in Dhamar governorate, Yemen.

Methods: A descriptive cross sectional study was carried out on 150 patients with ocular diseases and visual impairment attending ophthalmic clinics at Thamar University Al-Wahda Teaching Hospital (TUWTH) and a private clinic between May 2018 and January 2019. Information on clinical investigations, socio-demographics, medical history, and potential risk factors was collected using a pretested questionnaire.

Results: The commonest ocular disease observed among the patients was cataract (57.3%) followed by error of reflection (12.7%), conjunctivitis (10.0%), glaucoma (8.0%), trauma (4.7%), uveitis (4.0%), pterygium (2.0%), and DM retinopathy (1.3%). Distribution of cataract was significantly ($P < 0.05$) higher among non-educated, khat chewers, and those with previous history of eye surgery, hypertension. Likewise, patients with glaucoma had significant ($P < 0.05$) higher frequency of hypertension history.

Conclusion: Unfortunately, low economic condition of our country prevents the reduction of high blindness rate due to cataract by surgical intervention. Improving of community awareness about the risk factors is imperative. Early identification is critical for reducing the incidence of blindness.

Keywords: Prevalence, Ocular Disease, Visual Impairment, Dhamar, Yemen

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Pap smear Abnormalities among Yemeni Women

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Background: Cervical cancer is a global health problem among women. It is the most common cancer among women after breast and colorectal cancer. Many risk factors are associated with cervical cancer including human papilloma virus (HPV) infection.

Aim: This study aimed to determine the frequency of epithelial cell abnormalities of the cervix among Yemeni women attending obstetrics and gynecology clinics in Dhamar city.

Methods: A total of 100 married women aged ≥ 20 years participated in the study. A conventional Pap smear technique, after visual inspection of the cervix, was performed. It was collected by using Ayres spatula, fixed, stained and interpreted.

Results: The present study showed that the frequency of epithelial cell abnormalities of the cervix was as the following: chronic nonspecific cervicitis (61%), chronic active cervicitis (21%), acute cervicitis (14%), and suspicious cervix (3%). Cervical cancer was only reported in (1%) of the cases. The results suggested that these abnormalities were not related to HPV.

Conclusion: This study explains that most cases of cervical cancer could be triggered by chronic cervicitis (inflammatory process) not due to HPV infection. Serious complications can be preventable by early management and appropriate timely screening test (pap- test).

Keywords: *Pap smear, Cervical Cancer, Chronic Cervicitis, Women, Yemen*

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Pattern of Rheumatic Heart Disease in Dhamar City, Yemen

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Background: Rheumatic Heart Disease (RHD) is a global health problem leading to significant death and disability in developing countries.

Aim: This study was aimed to investigate the pattern of RHD in Dhamar city, Yemen.

Methods: It was a retrospective facility-based study carried out on 100 patients diagnosed with RHD at three health facilities in Dhamar city during the study period, August 2018 and January 2019. The collected data included echocardiography findings.

Results: The pattern of heart valve damage among the 100 RHD patients was as follows: mitral (72%), aorta (9%), both valves (12%), prosthetic valve 2(2%), tricuspid (2%), and mitral with tricuspid (3 %).

Conclusion: Rheumatic heart disease takes an aggressive course in Dhamar city. Children, adolescents and young adults of both genders are the victims. Complications appear early with scanty opportunity to reach advanced age. There is a little chance for palliative treatment.

Keywords: *Pattern, Rheumatic Heart Disease, Yemen*

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Distribution of Inguinal Hernia Predisposing Factors among Patients for Surgical Operation in Dhamar Governorate

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Background: Inguinal hernia is one of the most common surgical pathologies. There is a need for researching clinical factors predisposing a person for the development of inguinal hernia.

Aim: This study was aimed to assess the distribution of clinical factors predisposing inguinal hernia among patients attending public and private hospitals in Dhamar governorate, Yemen.

Methods: It was a descriptive cross-sectional study carried out one 100 patients with inguinal hernia for surgical operation (pre-operative or post-operative). Information on age, gender, and proposed clinical factors was collected from the patients using a pretested questionnaire.

Results: The vast majority of the patients were males (92%) and most of them were ≥ 40 years (55%). The proposed clinical factors triggering inguinal hernia that reported by the patients were lifting heavy object (75%) smoking and chronic cough (25%).

Conclusion: This study shows a slightly high incidence of inguinal hernia among patients with lifting heavy object. Secondly, was smoking and chronic cough and affecting the productive group population.

Keywords: *Inguinal Hernia, Clinical Factors, Yemen*

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Clinical Patterns of Sickle Cell Anemia in Hajjah Governorate, Yemen

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Mohammed M. Al-Shami², Mustafa A. Al-Shoki², Yahya A. K'adash²

Background: Sickle cell anemia (SCA) is an inherited blood disease characterized by chronic hemolytic anemia and intermittent episodes of vascular occlusion, with acute and chronic pain.

Aim: The aim of this study was to assess the clinical pattern of sickle cell anemia (SCA) in Hajjah governorate, Yemen.

Methods: It was a cross sectional hospital-based study carried out among patients aged 1-20 years with SCA in seven districts in Hajjah governorate. A total of 111 patients admitted to the available health facilities in the selected districts between August 2018 and February 2019 were enrolled in the study.

Results: Out of the 111 patients with SCA, 55.9% (56/111) were males and 44.1% were females. The frequent presentations were vaso-occlusive crisis (36%), chest infection (28.8%), hemolytic crisis (27%), other febrile illness (4.5%), sequestration crisis (2.7%) and priapism (1.0%).

Conclusion: Our finding showed that SCA has a severe clinical course in Yemen. It was similar in many aspects to those with sickle cell anemia patients in Middle East, Africa, Asia and. Genetic counseling and health education must be introduced for all patients and their families with the aim of reducing the disease incidence as well as its severity.

Keywords: Sickle Cell Anemia, Pattern, Yemen

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Diabetes Prevention Program Research Group. Hypertension, insulin, and proinsulin in participants with impaired glucose tolerance. *Hypertension.* 2002;40:679-86.
 - Books and other Monographs
 - Personal author(s)

Murray PR, Rosenthal KS, Kobayashi GS, Pfaller MA. *Medical microbiology.* 4th ed. St. Louis: Mosby; 2002.
 - Author(s) and editor(s)

Breedlove GK, Schorfheide AM. Adolescent pregnancy. 2nd ed. Wiczorek RR, editor. White Plains (NY): March of Dimes Education Services; 2001.
 - Chapter in a book

Meltzer PS, Kallioniemi A, Trent JM. Chromosome alterations in human solid tumors. In: Vogelstein B, Kinzler KW, editors. *The genetic basis of human cancer.* New York: McGraw-Hill; 2002. p. 93-113.
 - Conference proceedings

Harden P, Joffe JK, Jones WG, editors. Germ cell tumours V. Proceedings of the 5th Germ Cell Tumour Conference; 2001 Sep 13-15; Leeds, UK. New York: Springer; 2002.

- Conference paper

Christensen S, Oppacher F. An analysis of Koza's computational effort statistic for genetic programming. In: Foster JA, Lutton E, Miller J, Ryan C, Tettamanzi AG, editors. Genetic programming. EuroGP 2002: Proceedings of the 5th European Conference on Genetic Programming; 2002 Apr 3-5; Kinsdale, Ireland. Berlin: Springer; 2002. p. 182-91.

- Dissertation

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