



Faculty of Medicine
BOOK OF ABSTRACTS

SCIENTIFIC DAY 2016

January 21, 2016

MAIN AUDITORIUM

AL-QUDS UNIVERSITY

JERUSALEM

ABU DEIS CAMPUS

PALESTINE

PROMOTING RESEARCH COLLABORATION

PREFACE

It is our great pleasure to welcome all participants including our eminent guests to the “Scientific Day 2016” at Al-Quds University, Faculty of Medicine,

The organizing committee of the “SCIENTIFIC DAY 2016” welcomes you to this exciting and informative meeting.

We hope that this meeting will fulfill the main goal, which is to promote research collaboration among the Science Faculties. Further more to prepare Palestinian students mentally and scientifically to face the audience and expose them to the world of scientific meetings and conferences.

Half of the participants in this important scientific event are students. Among our speakers are previous graduates of Al-Quds University who have completed their education and are now working in highly respected positions in our Palestinian community.

With all the restrictions of the military occupation of our country, the hosting of such a meeting is extremely important to share and to encourage research endeavors among colleagues and students.

We hope that our efforts in the organization and logistics of this humble meeting match with the quality of work that will be presented by our students, faculty members and national scholars. We would like to welcome you all to Al-Quds University, which strives to be the address for undergraduate teaching and graduate research in Palestine. Special thanks are due for the Public Relations Department at Al-Quds University and for the Medical Students for their enthusiasm and hard work to ensure the success of this conference .We wish you a successful day filled with information, enjoyment, productivity and networking.

The organizing Committee

Dr. Dina M. Bitar Chair

Dr. Suheir Ereqat

Dr. Ghassan Balousha

Scientific Day 2016
Promoting research collaboration at Al-Quds University

January 21, 2016

Program

Thursday January 21, 2016:

Main auditorium, Registration (8:00-10:00)

8:00 – 10:00	Registration	
8:30 – 9:00 Master of Ceremony Dr. Motaz Kutob	Opening ceremony	Welcoming President of the University: Prof. Imad Abu Kishik Vice President for Research and Development: Dr. Badie Sartawi Dean of the faculty of Medicine: Dr. Hani Abdeen Dean of Research: Dr. Motaz Kutob
Morning Session 9:00 - 10:30 Chair: Prof. Akram Kharoubi Dr. Suheir Ereqat	Prof. Imad Barghouthi Dr. Khawla Qamhieh Prof. Hisham Darwish Dr. Rania Abu Seir Dr. Basma Damiri	
10:30 - 11:00	Coffee and Viewing Posters	

<p>Noon session</p> <p>11:00 - 12:30</p> <p>Chair:</p> <p>Dr. Sameer Barghouthi</p> <p>Dr. Dina Bitar</p>	<p>Dr. Moath Nairat</p> <p>Dr. Lina Abu Tair</p> <p>Dr. Amer Al-Jawabreh</p> <p>Dr. Moanad Aker</p> <p>Dr. Eham Kateeb</p> <p>Mrs.Yumna Shehadeh</p>		
<p>12:30-1:30</p>	<p>Poster Session</p>		
<p>1:30-2:30</p>	<p>LUNCH BREAK</p>		
<p>Afternoon Session</p> <p>2:30-4:00</p> <p>Chair:</p> <p>Dr. Motasem Hamdan</p> <p>Dr. Ghassan Balousha</p>	<p>Mr. Ashraf Zayed</p> <p>Dr. Najah Al-Khateeb</p> <p>Dr. Abdulaziz Thabet</p> <p>Dr. Nuha El-Sherif</p> <p>Miss Dua'a Abu Shkhaidem</p> <p>Mr. Abbas Masalmeh</p>		

4:00 – 4:30

Closing Remarks

Morning Session 9:00 – 10:30

9:00 – 9:30

Prof. Imad Barghouthi

A Palestinian contribution to the field of space physics, a series of 40 publications, beginning from 1989 to 2016.

9:30 – 9:45

Dr. Khawla Qamhieh

Complexation of dendrimer as nonviral vector with DNA.

9:45 – 10:00

Prof. Hisham Darwish

Serum 25 Hydroxyvitamin D, bone turnover markers and molecular genetics haplotypes in postmenopausal Osteoporosis.

10:00 – 10:15

Dr. Rania Abu Seir

The Association between Viral Hepatitis and B-cell non-Hodgkin Lymphoma among Palestinians.

10:15 – 10:30

Dr. Basma Damiri

Characterization and prevalence of Metabolic Syndrome among overweight and obese adults in 3 Palestinian refugee camps.

Noon Session 11:00 – 12:30

11:00 – 11:15

Dr. Moath Nairat

Surgical treatment of popliteal arteriovenous fistula associated with aneurysm after penetrating gunshot to the lower limb: case report of 3 cases.

11:15 – 11:30

Dr. Lina Abu Tair

Molecular diagnosis of Legionella pneumophila from lower respiratory tract secretions.

11:30 – 11:45

Dr. Amer Al-Jawabreh

Incidence of Echinococcus granulosus in Domestic Dogs in Palestine as Revealed by Copro-PCR.

11:45 – 12:00

Dr. Mohanad Aker

A model to centralize and coordinate cleft care in Palestine, why and how?

12:00 – 12:15

Dr. Elham Kateeb

Oral Health Status, Knowledge, Practices, and Access to Dental Care among Palestinian Women during Pregnancy.

12:15 – 12:30

Mrs. Yumna Shehadeh

Performance Assessment of Private Clinical Labs in West Bank based on External Quality Assessment Scheme (EQAS) Data.

Afternoon Session 2:30 – 4:00

2:30 – 2:45

Mr. Ashraf Zayed

Environmental surveillance and molecular epidemiology of waterborne pathogen Legionella spp from West Bank hospitals.

2:45 – 3:00

Dr. Najah Al-Khatib

Prevalence of Depression Among Elderly Living in Refugee Camps in Palestine.

3:00 – 3:15

Dr. Abdulaziz Thabet

Trauma experiences, post traumatic growth and resilience.

3:15 – 3:30

Dr. Nuha El-Sherif

Compliance with and knowledge about diabetes guidelines among physicians and nurses in Palestine.

3:30 – 3:45

Miss Dua'a Abu Shkhaidem

Vaccine development for orf virus strains isolated from infected scabs of Palestinian sheep.

3:45 – 4:00

Mr. Abbas Masalmeh

Molecular Characterization of Borrelia Species as a Causative Agent for Tick-Borne Relapsing Fever from Ixodidae and Argasidae in Palestine.

Poster Presentations Schedule

Posters 1, 2,3,4,5

12:30 -1:00

Posters 6,7,8,9

1:00 -1:30

Please note: The poster presenter is expected to give a 5-minute introduction to his/her poster during the allotted time for his/her poster viewing. In addition to the formal allotted poster session, presenters are encouraged to be available by their poster at some time during lunch and/or coffee breaks.

Abstracts

O⁺ and H⁺ above the polar cap: Observations and semikinetic simulations

Imad Ahmad Barghouthi

Department of physics, Al-Quds University, Palestine

A 1-dimensional direct simulation Monte Carlo model is used to study the outflow of O⁺ and H⁺ ions from 1.2 RE to 15.2 RE along two flight trajectories originating from the polar cap, namely the central polar cap (CPC) and the cusp, in order to study the effect of varying geophysical conditions and to deduce the proper set of parameters. Several parameters were varied and the results were compared to corresponding data from Cluster spacecraft. First, several sets of diffusion coefficients were considered based on using diffusion coefficients calculated by *Barghouthi et al.* [1998], *Nilsson et al.* [2013], and *Abudayyeh et al.* [2015b] for different altitude intervals. It was found that in the central polar cap using the diffusion coefficients reported by *Barghouthi et al.* [1998] for altitudes lower than 3.7 RE, zero diffusion coefficients between 3.7 and 7.5 RE and diffusion coefficients from *Nilsson et al.* [2013] for altitudes higher than 7.5 RE provide the best fit for O⁺ ions. For O⁺ ions in the cusp the best fit was obtained for using *Barghouthi et al.* [1998] diffusion coefficients for altitudes lower than 3.7 RE and *Nilsson et al.* [2013] diffusion coefficients for altitudes higher than that. The best fit for H⁺ ions in both regions was obtained by using the diffusion coefficients calculated by *Abudayyeh et al.* [2015b]. Also, it was found that along an ion's trajectory the most recent heating dominates. Second, the strength of centrifugal acceleration was varied by using three values for the ionospheric electric field namely: 0, 50, and 100 mV/m. It was found that the value of 50 mV/m provided the best fit for both ion species in both regions. Finally the lower altitude boundary conditions and the electron temperature were varied. Increasing the electron temperature and the lower altitude O⁺ parallel velocity were found to increase the access of O⁺ ions to higher altitudes and therefore increase the density at a given altitude. The variation of all other boundary conditions only affected the densities of the ions and not the other moments due to the overwhelming effect of wave particle interaction. Furthermore varying the parameters of one ion species has no effect on the other ion species. We also compared the energy gain per ion due to wave particle interaction, centrifugal acceleration, and ambipolar electric field and found that wave particle interaction is the most important mechanism, while

ambipolar electric field is relatively unimportant especially at higher altitudes.

Complexation of dendrimer as nonviral vector with DNA

Khawla Qamhieh

Department of physics, Al-Quds University, Palestine

Gene therapy holds a promise in healing cancer and other genetic diseases by directly delivering therapeutic DNA into living cells. Although viruses have been demonstrated to be efficient delivery vectors, their toxicity and immunogenicity have limited their general use. Poly (amidoamine) (PAMAM) dendrimers, being protonated under physiological conditions, have great potential as nonviral vectors for gene transfection. Many experimental and simulation studies have been performed to study the effect of dendrimer size, charge, and salt concentration on the structure and transfection efficiency of condensed DNA aggregates. In our study we investigated the complexation of dendrimers with DNA molecule using theoretical model and Coarse-Grained molecular dynamics simulations.

Throughout the study, first we emphasized on the effect of the medium's environments on the complexation of LPE chain with one dendrimer, namely the concentration of 1:1 salt solution, dielectric permittivity of the solvent, and pH conditions. Other factors have been investigated such as size and charge of the dendrimers, degree of polymerization of the LPE chain, and its rigidity. Then we investigated the effect of the salt concentration on the interaction between linearized DNA plasmids (4331 bp) and positively charged dendrimers of generations 1, 2, 4, 6 and 8, previously studied experimentally. It is found that in the first case of complexation of LPE chain with one dendrimer, the wrapping degree of the chain around the dendrimer increases by increasing dendrimer's charge, Bjerum length, length of the LPE chain, and salt concentration. Also, charge inversion of dendrimer is obtained, and the value of the inverted charge increases by increasing the above mentioned parameters. While the complex shows more wrapping degrees, and less inverted charge as the pH of the solution decreases.

In the case of complexation of DNA plasmids with dendrimer of different generations, the wrapping length of the LPE chain depends on dendrimer generation.

With small generations, the optimal wrapping length of LPE chain around dendrimer increases by increasing the salt concentration, while , the complexation is insensitive to ionic strength with large generations.

Serum 25 Hydroxyvitamin D, bone turnover markers and molecular genetics haplotypes in postmenopausal Osteoporosis.

Hisham Darwish^{1,2,3}, Akram Kharroubi⁴ Elias Saba³, and Riham Smoom¹.

Molecular Genetics Laboratory, Medical Research Center, Al-Quds University¹. Visiting Professor, Faculty of Allied Medical Sciences, Arab American University-Jenin AAUJ², Palestinian Osteoporosis Prevention Society [POPS], Bethlehem³, Faculty of Health Professions, Al-Quds University⁴, Palestine.

Introduction. Vitamin D deficiency and osteoporosis constitute serious health problems. The status of vitamin D deficiency along with other relevant biological and genetic makers linked to bone health in the Palestinian population are not fully characterized.

Objective. Investigate the association of osteoporosis with serum 25(OH) D₃, parathyroid hormone (PTH), calcium, PINP and CTX1 markers, in addition to SNPs and mutations in genes involved in bone health including VDR, ER α , MTHFR, TNFSF11, VKORC1, and OPG genes.

Method and experimental approach. Three hundred eighty women ≥ 55 years were recruited from various clinics for BMD determination and blood samples collection for blood markers assessment, genomic DNA preparation and SNPs testing in the individual genes.

Results. The percentage of osteoporosis among recruited subjects was 34.2% (130/380) based on total hip, femoral neck and lumbar spine L1-L4 BMD. Subjects with osteoporosis had statistically significant lower mean weight, height and BMI and serum calcium ($p < 0.05$). No significance difference was detected between the mean values of bone turnover markers (CTX and PINP), 25(OH) D and PTH of the two groups. The cut off values for vitamin D status are < 10 ng/ml for severe vitamin D deficiency, 10-20 ng/ml for insufficiency and > 20 ng/ml for vitamin D sufficiency. Based on this scale, Palestinian women with severe vitamin D

deficiency represented 15.4% (44/285), the insufficiency group 70.1% (201/285) and the sufficiency group 14.0% (40/285). The optimal cut off value for vitamin D required to keep PTH below 70 pg/ml was 13.1 ng/ml using receiver operating characteristic (ROC) curve analysis. Calcium levels were within the normal range in the three groups whereas PTH was significantly higher with vitamin D insufficiency and severe deficiency compared to women with sufficient vitamin D levels (79.9, 85.6, and 50.0 pg/ml, respectively). Pearson correlation showed 25(OH) D was significantly negatively correlated ($p < 0.05$) with PTH ($r = -0.25$), weight ($r = -.135$) and BMI ($r = -0.147$) and positively correlated with calcium ($r = 0.126$). These correlations, although statistically significant, were not strong correlations. No statistically significant correlations were detected between vitamin D with BMD at any site, age, height, CTX1, and PINP markers. Strong positive correlation was evident between CTX1 and PINP ($r = 0.86$, $p < 0.01$). Median BMD total was higher in obese compared to overweight and normal subjects ($p = 0.000$). This was also confirmed by the strong relationship ($p = 0.000$) between obesity and total T score. The Odds ratio (OR) for having osteoporosis decreased with increasing weight (overweight OR = 0.245, $p = 0.003$; Obese OR = 0.117, $p = 0.000$). However, BMI had a negative correlation with vitamin D ($r = -0.148$) and positive correlation with PTH ($r = 0.129$). The molecular genetic in the indicated genes and BMD will be summarized in the presentation.

Conclusions. mean serum 25(OH) Vitamin D, PTH and bone turnover markers were not statistically different between the osteoporotic and control subjects. More than 85% of the tested postmenopausal women suffered from Vitamin D deficiency (severe and insufficient). Vitamin D negatively correlated with PTH and BMI but not with BMD. The protective effect of obesity on osteoporosis is evident. Significant correlations were evident between specific haplotypes in the indicted genes, BMD and other related markers.

The Association between Viral Hepatitis and B-cell non-Hodgkin Lymphoma among Palestinians

Rania Abu Seir¹, Ora Paltiel^{2,3}, Rifaat Safadi⁴, Geffen Kleinstern³, Riki Perlman², Fouad Sabatin⁵, Khaled Halahle⁵, Yousef Hamamreh⁵, Areej Khatib⁵, Fadel Rawashdeh⁵, Husein Elyan⁶, Loai Shahin⁷, Asad Ramlawi⁸, Dina Ben Yehuda², Ziad Abdeen⁹

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BACKGROUND Although hepatitis C virus (HCV) is an established risk factor for B-cell non-Hodgkin lymphoma (B-NHL), the etiologic role of hepatitis B virus (HBV) is less clear. We explored associations between exposure to HCV; exposure, persistence, and antibody response to HBV; family history of hematopoietic malignancies; and B-NHL in Palestinians.

METHODS B-NHL case-control study was conducted between 2009-2013, cases (N=307) were confirmed B-NHL ascertained through the Palestine Cancer Registry, three hospitals in the West Bank and Jerusalem, in addition to Hadassah University Hospital. Controls (N=394) were frequency-matched to cases on age, sex, and region. We report odds ratios (ORs) and 95% confidence intervals (CIs), for B-NHL and its subtypes, further adjusting for demographic characteristics (OR_{adj}), where possible. Serology was performed for antibody to HCV; hepatitis B core antibody (anti-HBc+), surface antigen (HBsAg+), surface antibody (anti-HBs+), e antigen, and e antibody.

RESULTS The mean age at diagnosis for B-NHL was 51 years [SD=17], median 52 years. In terms of histopathological subtypes, diffuse large B-cell lymphoma (DLBCL) was the most common (70.8%), followed by follicular lymphomas (FL, 14.1%). HCV was associated with diffuse large B cell lymphoma (DLBCL), $OR=2.1$ (CI:0.33-13.5), as was HBsAg, $OR_{adj}=2.30$ (CI:1.0-5.42). HBV exposure, *per se*, reflected in anti-HBc+, was not associated with B-NHL overall, $OR_{adj}=1.07$

(CI:0.74-1.52) or in subtypes. Antibody response to vaccine (anti-HBc- with anti-HBs+) was negatively associated with B-NHL, $OR_{adj}=0.54$ (CI:0.30-0.98), while natural antibody response (anti-HBc+ with anti-HBs+) exhibited a non-significant negative association, $OR_{adj}=0.81$ (CI:0.54-1.23). Lack of antibody response to HBV (anti-HBc+ with anti-HBs-) was positively associated with DLBCL, $OR_{adj}=1.83$ (CI:1.04-3.22). A family history of hematopoietic malignancies in first degree relatives was associated with HBV persistence (HBSAg+), even among the controls $OR_{adj}=5.22$ (CI:1.14-23.8).

CONCLUSIONS Persistent HBV infection but not exposure *per se*, is a risk factor for DLBCL, and is associated with a positive family history of hematopoietic malignancies. This finding suggests the presence of inherited susceptibility to both DLBCL and impaired viral clearance. In contrast, ability to mount an immune response to HBV appears protective for DLBCL.

Characterization and prevalence of Metabolic Syndrome among overweight and obese adults in 3 Palestinian refugee camps

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Background:Metabolic syndrome (MetS) is a term used to describe the combination of risk factors including: abdominal obesity, elevated blood pressure, elevated fasting blood sugar, and dyslipidemia that increase the risk for both cardiovascular problems and/or type 2 diabetes mellitus (DM). Several expert groups proposed diagnostic criteria for MetS: these include National Cholesterol Education Program's Adult Treatment Panel III (NCEP/ATP III) and the International Diabetes Federation (IDF)

definitions.

Objectives: To estimate the prevalence of MetS in obese and overweight adults (18-65) living in 3 UNRWA refugee camps in West Bank – Palestine; by both the NCEP/ATP III and IDF definitions. And to find any associated socioeconomic or lifestyle factors linked to MetS.

Methods and materials: This is a cross-sectional study that included 689 apparently healthy adults residing in UNRWA refugee camps. The participants were chosen from the attendees of UNRWA clinics in the refugee camps. Data were collected by interviews and anthropometric measurements, overweight or obese adults were offered to perform blood tests including fasting blood sugar (FBS), Triglyceride (TG), and High Density Lipoprotein (HDL). MetS was defined according to NCEP/ATP III and IDF criteria

Results: The prevalence of MetS was 52.1% (51.9% men, 52.2% women) according to NCEP/ATP III, and 69.4% (71.8% men, 67.6% women) according to IDF in obese and overweight individuals. The prevalence of MetS increased with age according to both definitions. Physical activity was found to be significantly inversely associated with MetS prevalence according to NCEP/ATP III but not IDF. While no significant associations were found with gender, smoking, TV watching, and family history of hypertension (HTN) or Diabetes Mellitus (DM).

Conclusion: MetS is highly prevalent in obese and overweight refugee camp residents, and its risk may decrease with increasing physical activity. This may promote for a national awareness of the benefit of physical activity in decreasing the risk of MetS and thus the risk of cardiovascular complications.

Surgical treatment of popliteal arteriovenous fistula associated with aneurysm after penetrating gunshot to the lower limb: case report of 3 cases

Moath Nairat , Ahmad Darwazah, Mohamad lutfi , Morad Ganyem, Mohamad Omar

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Repair of vascular injury after gunshot is generally an effective procedure with low rate of long term vascular complications. We report three young male patients with

A-V fistulae of the popliteal artery presented after gunshot injury.

The first 25-year-old had A-V fistula associated with left popliteal artery aneurysm developed 4 weeks after injury. The second 27-year-old presented with isolated A-V fistula 2 weeks after repair of partial arterial injury and the third 21-year-old presented with femoro-popliteal fistula after 7 years from gunshot injury.

These patients presented with popliteal and calf pain, bruit and thrill at the popliteal fossa. In addition, the third patient had sudden attack of chest pain, dyspnea and hemodynamic deterioration. Peripheral CT angiography confirmed the presence of fistula of the left popliteal artery associated with aneurysm, isolated fistula of the right popliteal artery and fistula of the right femoro-popliteal artery with aneurysmal formation together with pulmonary embolism as proved by Ct angiography of the chest for the three patients respectively.

During surgical exploration, the fistula between the popliteal artery and vein was isolated and repaired. Aneurysm was excised and the artery was repaired by interposition saphenous graft for the first case and direct repair for the second. Emergency pulmonary embolectomy was performed in the third patient, who had repair of fistula and excision of the aneurysm three days later. Operative and postoperative recovery was uneventful. Follow up showed complete recovery with no residual vascular insufficiency.

Molecular diagnosis of Legionella pneumophila from lower respiratory tract secretions

Lina Jaber, Hadeel Abu Tair, Shereen Bahader, Hanna Al-Allam, Suha Butmeh and Dina M. Bitar.

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Background: *Legionella* is a gram negative bacterium, which have been associated with human infections ranging from a self-limiting flu-like illness (Pontiac fever) to a fatal form of pneumonia (Legionnaire's disease (LD)). The incidence of Legionnaires disease in a given community varies with the index of suspicion of the physicians who order tests for it. LD is frequent but underdiagnosed since it is not easily detected by culture and diagnostic laboratories do not routinely try to culture it. Therefore

molecular based methods are currently being used to identify *Legionella* species. Moreover, the assessment of disease risk by Quantitative Microbial Risk Assessment (QMRA), can provide information on the probability of infection from exposure to pathogens in drinking and bathing water in our hospitals especially for immunocompromised patients.

Methods: In this study 215 sputum and bronchoalveolar lavage specimens collected from suspected pneumonia patients, were cultured for *Legionella*. For molecular diagnosis genomic DNA was extracted, and tested by conventional and real time PCR targeting *16S rRNA* to screen for and quantify *L. pneumophila*.

Results: By PCR, 20% of the respiratory samples were positive for *Legionella pneumophila*. Bronchial lavage presented a higher percentage (50%) than sputum which revealed (23%). The incidence of infection was higher in patients between the ages of (0-1) and (50-60) years. Only one sample was positive for *Legionella pneumophila* by routine bacteriological culture method. This very low yield may be explained due to the regimen of antibiotics heavily used by patients prior to seeking medical attention.

Conclusion: Although, conventional culture methods is the gold standard, molecular approach is much more sensitive, nevertheless, further work is required to better improve the molecular diagnostic tests for diagnosing lower respiratory tract infections, and to develop standard assays that can be readily adopted by routine diagnostic laboratories.

Incidence of Echinococcusgranulosus in Domestic Dogs in Palestine as Revealed by Copro-PCR

Amer Al-Jawabreh, Kamal Dumaidi, Suheir Ereqat, Abdelmajeed Nasereddin, Hanan Al-Jawabreh H, Kifaya Azmi, Nahed Al-Laham, and Ziad Abdeen

Hydatidosis or echinococcosis considered a neglected zoonotic disease despite its high burden in the livestock industry and the high risk of infection by humans in endemic areas. In a cross-sectional study we estimated the copro-Incidence and also genotyped *Echinococcusgranulosus* isolates from domestic dogs using polymerase chain reaction (PCR). Medical archives in nine major hospitals in Palestine were reviewed to determine incidence of *E. granulosus* infection detected in humans during surgery. Faecal samples were collected from 93 domestic dogs in three districts with the highest number of human cases: Al-Khalil (Hebron), Tubas and

Jenin. Genomic DNA was extracted from dog faecal samples and amplified by PCR targeting the repeat DNA sequence (EgG1 Hae III) followed by sequencing of five positive samples. Genotyping was determined by sequencing and BLAST searching of mitochondrial cytochrome c oxidase subunit (CO1). The incidence of *E. granulosus* infection detected in humans at surgery was 1.2 per 100,000 in the West Bank and 1.0 per 100,000 in Gaza Strip. Seventeen of 93 domestic dogs (18%) were positive, based upon comparison with the *Echinococcus* DNA control. The five sequenced samples were confirmed to be *E. granulosus*. Successfully genotyped sample belonged to *E. granulosus sensu stricto* (formerly G1-G3 complex, sheep strain). For domestic dogs, age group (13-24 months) and sex were identified as two risk factors for contracting *E. granulosus*. The study identified the high incidence of *E. granulosus sensu stricto* in dogs in Palestine.

A model to centralize and coordinate cleft care in Palestine, why and how.

Mohanad Aker

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Cleft care in Palestine, as in most third world countries, has been based on external missions for over thirty years. It can not be denied that this type of care has helped a large number of patients and their parents to overcome the difficulties accompanying this malformation. Yet, there is a lot of work that needs to be done to reach the standards required and stated by the Royal College of Surgeons (RCS) Steering Group on cleft lip and palate, or be able to reach the Parameters set by the American Cleft lip Palate - Craniofacial Association.

One important step in that direction is to establish a centralized service to coordinate, provide and follow up the treatment of patients, as well as maintain good records. This effort will not be easy as Palestine is plagued by the Israeli occupation with its policy of geographical fragmentation on one hand and the fact that the healthcare provision in Palestine is spread out between four providers: the Ministry of Health, Non Governmental Organizations, private sector as well as the UNRWA on the other hand.

Oral Health Status, Knowledge, Practices, and Access to Dental Care among Palestinian Women during Pregnancy

Elham Kateeb

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Al-Quds University elhame20@gmail.com

Background: Good oral health during pregnancy can not only improve the quality of life of the pregnant mother, but also potentially reduce complications during pregnancy as well as the risk of her child developing early childhood caries (ECC) in the future. Therefore, this study came to investigate pregnant women's oral health knowledge, beliefs and behavior and to identify barriers to accessing care and practicing good oral hygiene.

Methods: Pregnant women visiting Maternal and Child Health Care (MCHC) units at the Ministry of Health (MOH) centers in East Jerusalem area were invited to participate in this study. In-person structured interview was conducted to assess: oral health knowledge and beliefs, oral hygiene practices, access to dental care and mothers' intended behavior towards their children oral health care. Mothers' confidence in their commitment to brush their children's teeth daily, their current stress level and the social support available for those women were also measured in this study. In addition, screening for oral health conditions was carried out using DMFT/S to assess dental caries experience and the three gingival health indices (plaque, gingival and calculus) to assess periodontal diseases. Descriptive statistics for all the previous variables were generated.

Results: 119 pregnant women agreed to participate in this study. Eighty-seven percent of our sample were house wives with mean age 26 ± 5 years. Twenty-five percent of women in this study had a household monthly income less than 380\$ and 45% did not finish their high school. This sample had an average DMFT of 14 ± 5 and an average DMFS of 31 ± 20 . Thirty-five percent of our sample did not visit a dentist in the last 3 years and 51% were advised by family and friends not to visit the dentist while pregnant. Eighty-one percent of our sample had no dental insurance and 28% considered cost as a barrier to access dental care. Thirty-five percent of women in this study brushed their teeth "sometimes" and 89% "Never" flossed their teeth. Twenty-four percent perceived their oral health as "Poor" and 55% believed that "A

woman can lose a tooth just because she is pregnant”. Fifty percent did not know about any connection between poor oral health and adverse birth outcomes and 21% believed that cavities in baby teeth do not matter.

Conclusions: Women in this study had very high DMFT/S scores and knew very little about oral health and proper oral hygiene practices. The participants reported significant barriers to obtaining dental care including limited access to affordable dental services and lack of awareness about the importance of maternal oral health and its connection to general health and adverse birth outcomes. Findings from this study suggest the need for preventive and educational interventions to be incorporated in pre-natal health care programs to improve maternal and child oral health in Palestine.

Performance Assessment of Private Clinical Labs in West Bank based on External Quality Assessment Scheme (EQAS) Data

Yumna Shehadeh

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Background: Quality control is an essential part of laboratory investigation, both internal and external. EQAS is considered as a procedure for utilizing the results of many laboratories which analyze and examine the same specimen(s) in order to check the accuracy and the reliability of different laboratory’s results. Evidence-Based Medicine depends greatly on lab results for diagnosis. Thus, high accuracy in lab data is essential as well as harmonization between labs to provide comparable results for the same patient.

Purpose of Study: To evaluate the performance of private laboratories that participate in EQAS program.

Materials and Methods: The data was obtained from the Center for Quality Control in Laboratory Medicine/ Al-Quds University/ Ramallah; the only site that provides services in EQAS for medical labs in Palestine. The data corresponds for 40 private

labs during the period between May 2015 and Sep 2015, which included 6 EQAS samples. The chemistry results for the 10 most routinely requested analytes were statistically analyzed using SPSS (version 20). EQAS uses consensus methods to evaluate labs performance. Analysis of the performance of the laboratories was based on the Deviation Index (DI) of analyte, standard deviation (SD), coefficient of variation (CV) and Mean of the absolute value of DI. Overall Mean of samples of the absolute value of DI was used for evaluation of laboratories performance.

Results: The degree of harmony among labs varied from analyte to analyte and from sample to sample. Based on the WHO scale for rating, for the overall chemistry performance, there were no excellent labs, 40% gave very good, 42.5% were good, and 10% were satisfactory. The rating for each analyte varied and also varied from sample to sample.

Conclusion: The performance is considered acceptable for some analytes, but there are some labs of bad performance in certain analytes. The labs must understand the importance of accuracy and harmonization among labs for the benefit of the patient and the laboratory.

Environmental surveillance and molecular epidemiology of waterborne pathogen *Legionella* spp from West Bank hospitals, A three years study

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Background: *L. pneumophila* grows in biofilms (e.g. pipes of drinking water systems) and infects humans by inhaling aerosols from aquatic environments, such as potable water, showerheads, and other man-made devices that generate aerosols. The clinical manifestations caused by this waterborne pathogen are severe pneumonia

(Legionnaires' disease (LD)), mild Pontiac fever, and respiratory tract coinfections.

Objectives: throughout this molecular survey we aim to assess the molecular epidemiology of *L. pneumophila* at the clonal level in Palestine, evaluate the health impact of LD by determination of virulence potential and infectivity of *L. pneumophila* in-situ.

Methods: 3-year proactive environmental surveillance of *Legionella* spp. in the water distribution systems (water and biofilm swabs) of eight hospitals was carried out. More than 1300 samples were analyzed by cultivation dependent analysis and 453 samples analyzed by molecular methodology. Serological analysis was done to identify *Legionella pneumophila* serogroups (sg). Moreover, Multi Locus Variable Analysis (MLVA-8) approach was performed. Virulence of isolated *Legionella* was measured by pore forming activity and infectivity assays.

Results: *Legionella* spp was detected in all hospitals' water systems. *Legionella* spp was isolated from 243 (20%) by cultivation dependent analysis and 268 (59%) of samples were positive by PCR. *L.pneumophila* sg.1 was predominant in most of the hospitals detected in (60%) of the isolates. Eight different genotypes were found, Genotype 4 (Gt4) is the most abundant (63%) of the isolates. The virulence of the isolates was different according to the site and season of collection.

Conclusion: In this study *L.pneumophila* was identified in all hospitals in the WB. The predominance of genotype 4 and the virulence profile exposed a potential health risk to immunocompromised patients. Thus, we recommend founding legislations for *Legionella* surveillance in Palestine and monitoring water distribution systems in Palestine hospitals according to international guidelines.

Prevalence of Depression Among Elderly Living in Refugee Camps in Palestine

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This is a descriptive correlational study the investigated prevalence of depression among elderly who live in refugee camps of the West Bank of Palestine.

Aging has specific physical, mental, social and psychological characteristics. It is

characterized by weakness and possibly collapse in the body, inability to psychological adjustment, disturbances in mental function, and less social relations. The psychological aspects of the elderly are related to the person capacity to adapt. Changes may occur in perception and memory, mood, self-concept and personality. There may be loss of former roles and status; loss of spouse, family and friends. These changes affect self-esteem and self-satisfaction as well as mental health.

studies about elderly in Palestine focused on different problems that face the elderly social, economic, and mental health problems. Few focused on mental health needs, quality of life but neither of these studies focuses on depression and its prevalence. This study is the first study conducted on elderly more than 60 years old in the camps of the West Bank to assess the prevalence of depression.

Objectives:

- To investigate if there is depression and its degree among the study sample
- To examine the association between demographic variables (age, residence, employment status, education, marital status, gender etc.) and levels of depression
- To examine association between non-demographic variables (refugee status, illness, and religiosity) and levels of depression among the sample of the study. A convenient sample of 281 elderly was taken using snowball method from 10 refugee camps. The tool was Beck's inventory for depression that was filled by the assistant researchers during 2014 and 2015. Data was analyzed by using SPSS package. Results indicated that most of the sample was married, unemployed, have some kind of illness, somehow religious, are refugees, and live with their children. Statistical analysis indicated that the mean score of depression came with a moderate level, and about 47% of the sample had higher than 17 scores, which is the cut point for diagnostic level

of depression according to Beck. Hypothesis testing indicated that some independent variables were statistically correlated with depression such as health status, gender, education, and marital status. Other independent variables were not associated with the presence of depression.

This study teaches us as mental health professionals to focus more on elderly and to screen them always for depression when we provide care or treat their physical illness. The study also highlights the importance of directing out attention to the elderly in mental health services and treatment. It is important to provide an active life and even some kind of employment or financial assistance to the elderly and keep an active live for them as families and health care providers.

Exposure to war traumatic experiences, post traumatic growth and resilience among university students in Gaza

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Aim: This study aimed to establish the association between war traumatic experiences, post traumatic growth and resilience among universities students in the Gaza Strip after war on Gaza.

Method: The sample consisted of 381 randomly selected student's representing the four major universities in Gaza Strip. Students completed the following self-rated questionnaires: Gaza Traumatic Events Checklist, Resilience scale, and Posttraumatic Growth

Inventory. Data collection was done on March -April 2015.

Results: Participants reported a range of traumatic events; the highest frequencies reported traumatic events were watching mutilated bodies in TV (94.5%), hearing shelling of the area by artillery (92.4%), hearing the loud voice of drone's motors (87.4%), and inhalation of bad smells due to bombardment (78.7%). While, the least common traumatic experiences were: hearing killing of a friend (11%), and being

arrested during the land incursion witnessing (18.9%). Mean traumatic events reported by universities students were 10 events. While, 6% reported mild, 36% moderate and 58% severe traumatic events. Male students reported more traumatic events than females. Mean post traumatic growth was 67.34, appreciation of life was 7.17, new possibilities were 12.25, the personal strength was 10.62, and spiritual change was 6.82. Males had significantly more post traumatic growth than females and females had significantly more spiritual changes than males. For resilience, mean resilience was 55, personal competence was 22.32, positive acceptance was 13.49, trust in one's instincts was 16.30, control was 7.96, and spiritual influences were 7.31. There were gender differences on resilience subscale. Males had significantly more positive acceptance than females, trust in others, control, spiritual influences, and females had significantly more spiritual changes than males. Traumatic events had no association with post traumatic growth and total resilience. However, resilience was positively correlated with post traumatic growth.

Conclusion: Universities students still experienced high levels of distress few months following war on Gaza, although they remained reported trauma. Trauma was not related to resilience and post traumatic growth. This finding highlights the need for establishing special community centers at the universities to help students to overcome the impact of trauma. New programs for psychosocial support and second level intervention for students, and these should continue beyond the end of hostilities. More training courses in the impact of trauma and ways of coping must be conducted for students in the universities.

Compliance with and knowledge about diabetes guidelines among physicians and nurses in Palestine

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Guidelines on the care of patients with diabetes mellitus are believed to improve clinical practice and patient care. This study aimed to analyse the pattern of diabetes care by physicians and nurses in primary care clinics in Palestine and their self-reported compliance with the local Palestinian guidelines. Questionnaires were used to collect data from 401 participants in 3 governorates in the West Bank. In total, 46.0% of participants knew about the existence of the Palestinian guidelines and about 60% believed these were partially used; 32.7% had received training on implementation of the guidelines. Multivariate analysis showed that training on the guidelines was the only factor significantly associated with self-reported compliance with guideline use. Respondents reported high commitment to the use of the guidelines, but their attitudes and behaviour varied with time constraints, availability of the guidelines, availability of laboratory tests and training on how to apply the guidelines

Vaccine development for orf virus strains isolated from infected scabs of Palestinian sheep

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Orf virus is the causative agent of contagious ecthyma dermatitis (CPD), which affects sheep and goats, and has a zoonotic potential. Disease is characterized by lesion formation around the mouth, nostrils, teats and udder that causes fatigue,

starvation and mortality up to 50% amongst new born lambs in Palestinian farms.

In Palestine, there is no certified vaccine for CPD, and differential diagnosis of orf virus is not supported by diagnostic tests to distinguish orf virus from other viral diseases with similar clinical signs such as sheep & goat pox or bluetongue virus or FMDV.

In this study, the scabs from animals that have clinical signs were collected from sixteen farms in the West Bank for conformation by polymerase chain reaction and viral isolation and propagation in the chorioallantoic membrane (CAM) of embryonated chicken eggs and in vero cell culture. Then, isolated orf virus was titered on CAM to determine the dose of infectious orf virus in a first effort to develop a local vaccine. In the first instance, we wished to verify the validity of autologous vaccination from local scabs as a means of farmer empowerment in the face of Israeli restrictions on commercial vaccine import. In addition, we are seeking to establish proof of principle for viral propagation in eggs for license of our technology to an external vaccine production company. Orf virus has been successfully isolated in the CAM of embryonated chicken eggs, but this route has not previously been employed for vaccine production.

Infected CAMs showed positive pathological changes characterized by pock lesions, thickening, small grayish foci and localized rupture of the CAM. The positive results on CAM were confirmed by PCR using the orf virus A32l gene (821bp). However, inoculation of vero cell culture, with the same isolates that were successful for CAM inoculation, did not produce cytopathic effects in these cells, and tissue culture medium was negative for orf virus by PCR even after 1 month of culture. Orf virus titration was performed on the CAM of embryonated chicken eggs by tenfold serial dilutions from 10^0 - 10^{-9} for three rounds, then the pock lesions produced on CAM were counted. Virus isolates showed a reduction in the number of pocks and intensity

of virus signs with decreasing of titers, where these signs have emerged strongly at 10^0 until 10^{-4} , then started to decline at 10^{-5} until 10^{-9} . Ground scabs have been mixed with 50% glycerol/PBS as an excipient and are being tested, on farms with a previous history of orf virus infection, alongside direct autologous vaccination from infected to non-infected sheep on the same farm as part of a farmer empowerment program in cooperation with the Food and Agriculture Organization of the United Nations (FAO) and with the generous support of the European Union.

Molecular Characterization of Borrelia Species as a Causative Agent for Tick-Borne Relapsing Fever from Ixodidae and Argasidae in Palestine

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Introduction: Tick-Borne Relapsing Fever (TBRF) is primarily caused by several *Borrelia* species that are transmitted through the bites of ticks. It is mainly characterized by multiple recurrences of nonspecific signs and symptoms, including fever, headache, myalgia, arthralgia, and even some neurologic complications. These *Borrelia* species are mostly vectored by soft ticks like *Ornithodoros tholozani* which is known as the main vector of *B. persica* in Palestine. However, Molecular based data on *Borrelia* species and their hosts in Palestine are very scarce as *B. persica* is the only *Borrelia* species that had been studied.

Objectives: This study aimed to investigate the molecular epidemiology of *Borrelia* species in ectoparasite hard and soft ticks, collected from different animal hosts and caves throughout Palestine. Screening for the presence of Borrelial DNA was carried out by PCR targeting flagellin (fla B) gene, BLAST analysis was used to study phylogenetic relationships between *Borrelia* positive samples and other reference

strains published in the GenBank.

Results: Among 917 tick samples: 80% (n= 736) were identified as *Ixodidae* (hard ticks) and 20% (n= 181) were *Argasidae* (soft ticks). Overall, 76% of the identified hard ticks belonged to the genus *Rhipicephalus* (92% *Rh. sanguineus* and 5.5% *Rh. Turanicus*), 12% of *Haemaphysalis* ticks (80% *H. parva* and 20% *H. adleri*), 11% were *Hyalomma* ticks (84% *H. dromedarri*, 6% *H. impeltatum*, and 5% *H. egyptium*). All collected soft ticks (n= 181) were identified as *Ornithodoros tholozani*. Out of 736 hard ticks, 2% (n= 13) were detected to be positive for *Borrelia* DNA by PCR. Sequence analysis revealed the presence of *B. persica* in 77% (n=10) of positive samples, while 15% (n=2) were *B. turcicae*. On the other hand, 9% of soft ticks (n=17) were found to harbor *B.persica*. All of them were well observed on the phylogenetic tree in separated clusters, however, two genotypes of *B. persica* in these samples were shown.

Conclusions: Our results revealed that not only soft ticks can harbor *B.persica*, but also hard ticks are a potential vector *B.persica* species. Unique *B. persica* genotype was only observed in soft ticks. Notably, in Palestine, *R. sanguineus* is the major hard ticks which vector *Borrelia* species among hard ticks, while *O. tholozani* is indeed the major one.

POSTER ABSTRACTS

Poster 1

Immunophenotyping of ALL Palestinian Pediatric Cases in West Bank Using Flow Cytometry

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Acute Lymphoblastic Leukemia (ALL) is the most common form of leukemia in pediatrics , accounts for 81% of Pediatric Leukemia (Howlader et al ., 1975), and 75% of cases occur in pediatrics under six years of age (Jaffe et al ., 2001) . The peak in incidence is between the ages of two and five , and the vast majority of ALL cases (80_85%) are of precursor B-lineage (Jaffe et al .,2001 and Kebriaei et al ., 2003) . Approximately 80% of pediatrics with B-ALL appear to be cured (Jaffe et al ., 2001) .

In ALL , causes of treatment failure including abandonment of therapy , suboptimal supportive care nad lack of uniform treatment guidelines appeared to be the most common . (Howard et al ., 2004 and Greenberg et al ., 2001) . However , there was a possibility that the subtypes of P-ALL in Palestine could include an excess of high risk leukemia subtypes . To our Knowledge , immunophenotyping analysis , risk stratification and survival rate after treatment of P-ALL have not been previously tested in the Palestinian Population .

The main goal is to have a better survival rate by developing a specialized multidisciplinary care teams and the introduction of a uniform national treatment protocol .

We show the incidence and the immunologic characteristics of acute lymphoblastic leukemia (ALL) subsets in Palestinian Pediatrics . We studied 68 unselected patients equal or below the age of 14 years with newly diagnosed ALL. Cases were classified according to immunophenotype : 60 (88.24 %) precursor B-cell phenotype (pB-cell) , mature B-cell with no one patients (0%) , and T-cell with 8 (11.76 %) cases . The age distribution showed a peak incidence between 2 and 5 years among the pB-cell ALLs subtype . There was a significantly higher frequency of ALL cases during autumn season compared with others seasons . Myeloid antigens occur more frequently among pB-cell ALL and were expressed in 13 (21.7%) of pB-cell ALL cases . Our results show that the distribution of ALLs in Palestinian Pediatrics is similar with the general distribution pattern in developed countries .

Poater 2

Assessment of Radiation Effective Dose from Abdomen-Pelvis CT scan

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Introduction : Effective dose (ED) in CT imaging expresses a measurement unit of the amount of radiation a patient receives.

Objectives: To evaluate and compare the total EDs and colon dose received by adult patients undergoing Abdomen-pelvis CT scans on two identical CT scanners – Philips Brilliance 64- at two different hospitals, with EDs calculated using Virtualdose (Virtual Phantoms, Inc.) software.

Methods: EDs for average weight 60 adult patients undergoing Abdomen-pelvis CT examination during a period of one month were used to make the following ED comparisons : (1) EDs between two identical CT scanners, (2) EDs calculated using Virtualdose software for two scanners, (3) colon ED calculated by Virtualdose software vs. previous studies.

Results: ED variance was significantly different in most comparisons, with maximum scanner ED of 45 mSv and 32mSv for (Al Shifa' Specialized Complex and Palestinian Medical Complex), and maximum ED calculated by Virtualdose software of 172 mSv and 32 mSv for the same hospitals. Colon ED of 392 mSv and 73 mSv were also calculated for twoscanners. ED calculations at Al Shifa' hospital was much higher than Palestinian Medical Complex.

Conclusions: ED between two hospital and Virtualdose software calculations had significant fluctuations. Such differences could be due to many reasons. The manual input of CT scanning parameters and selecting high mAs (Radiation quantity) values, would result in high EDs for some patients. Moreover, although the Virtualdose software represents a significant improvement on realism and accuracy of patient modeling, there are several remaining technological limitations which may present uncertainty in calculating ED. First, the software doesn't support tube current (mAs) modulation employed by a modern CT scanner as the ones used in our study. Second, using a low pitch value would also introduce some uncertainty.

The study shows an evidence of high EDs for Abdomen-pelvis CT, which could impose a radiation hazards and therefore needs further investigation.

Poster 3

Molecular Identification and phylogenetic analysis of *Rhipicephalus* hard-tick species from different Palestinian cities

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BACKGROUND: Ticks are obligate blood-sucking hematophagous ectoparasites of terrestrial vertebrates, including amphibians, reptiles, birds, and mammals. Ticks are considered as the second most important transmitters of different disease

organisms make them considerable important in medical and veterinary sciences.

OBJECTIVES: This study aimed to identify the most common hard-ticks species in Palestine, to establish a molecular approach for discrimination between hard ticks species that infest sheep (*Rh. sanguineus*, *Rh. turanicus* and *Rh. bursa*) and to study the genetic variation within each species in comparison to local and international hard ticks species. By identification hard tick species, the potential risk to animals as well as humans may be evaluated and thus more adequately controlled

FINDINGS: A total of 351 hard ticks (*Ixodidae*), were collected from sheep, goats and dogs during the period of March -October 2014, ticks were identified, based on morphological features into two main genus: *Rhipicephalus* (97.4%) and *Haemaphysalis* (2.6%), the ticks were further identified up to the species level as followed: *Rh. sanguineus* (79.2%), *Rh. turanicus* (9.7%), *Rh. bursa* (3.4%), *H. alderi* (0.9%) and *H. parva* (1.6%). All tick samples were identified by polymerase chain reaction (PCR) targeting the *COX-1* gene followed by RFLP using *ALU* restriction enzyme. A highly significant correlation was observed between RFLP and microscopy classification ($p < 0.01$). Phylogenetic analysis based on *COX-1* genetic sequences showed that three main clusters, *Rh. sanguineus*-like cluster, *Rh. turanicus*-like cluster, and *Rh. bursa*-like cluster.

CONCLUSIONS: To our knowledge, this is the first study in the Arab world to identify the hard tick species, using *COX-1* gene as genetic marker. In this study we succeed to distinguish between the closely related *Rhipicephalus* species: *Rh. bursa*, *Rh. turanicus* and *Rh. sanguineus*.

Poster 4

Assessment of Contamination of Currency Banknotes Obtained from Restaurants in Nablus City with Gram-Negative Bacteria

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Introduction: Most humans have their hands colonized with *Staphylococcus epidermidis*, and sometimes with *Staphylococcus aureus*, which is an important opportunistic human pathogen. In addition, human hands can be also contaminated with other opportunistic and primary microbial pathogens during our daily activities. Currency banknotes and coins are handles and exchanged among people in a daily basis of our lives. Thus, while being handled, they can be easily become contaminated with microbes and can serve as a vehicle for the transmission of microbial pathogens among people. Accordingly, currency banknotes can serve as a vehicle for the transmission of bacterial pathogens among people.

Main aims of the study: The main aims of this study were to assess contamination of currency banknotes obtained from different restaurants in Nablus city with Gram-negative bacilli as well as to examine the sensitivity of the obtained Gram-negative for certain antibiotics.

Results: The results of this study have shown that that about 20% of currency banknotes of the 20 NIS denominations and about 10% of currency banknotes of both the 50 and the 100 NIS denominations were contaminated with Gram- negative bacteria. These results agree with previous studies that showed that currency banknotes of lower denominations are often have higher level of microbial

contamination in comparison currency banknotes of higher denominations.

About 20 Gram-negative isolates were obtained. Among which, 12 of them of them were found to belong to the family *Enterobacteriaceae* such as *Citrobacter spp*, *Enterobacter spp* *Klebsiella ozaenae*, *Escherichia coli*, *Serratia liquefaciens* and *Shigella boydii*. With the exception of *Shigella boydii*, which is a primary human enteric pathogen, all other obtained species are important opportunistic pathogens that are involved in both community and hospital-acquired infections. The other 7 isolates were found to belong to the family *Aeromonadaceae* that can cause a variety of human opportunistic infections.

An important finding of the antibiotic sensitivity testing conducted in this study was that four of the obtained Gram-negative isolated that belong to the family *Enterobacteriaceae* exhibited intermediate or complete resistance to Cefotaxim and/or Ceftazidime, which are extended spectrum cephalosporines, which can be as an alarming indication for the spread bacteria that resist such antibiotics in the community.

Poster 5

Identification of Two Novel Homozygous 5' Donor Splice – site IVS1+1G>T and Missense G>A (Asp 413 Asn) Mutations in the Factor X Gene in Unrelated Palestinian Families

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Background: Factor X deficiency is a rare autosomal recessive disease with an estimated prevalence 1;1,000,000 characterized by significant reduction in factor X plasma levels, a vitamin K-dependent serine protease which forms the prothrombinase complex responsible for converting prothrombin to thrombin , a key enzyme in the blood coagulation cascade converting fibrinogen into fibrin .

Objectives: Identify the molecular defect[s] in the factor X gene in several Palestinian factor X deficient patients.

Materials and methods: Nine Palestinian patients from unrelated families suffering from Factor X deficiency and experienced severe bleedings were identified by thrombin time [PT], activated partial thromboplastin time [APTT] bioassays and undetectable factor X levels. All Patients responded positively after receiving fresh frozen plasma that provides them with enough stability to survive. All the eight exons including exon /intron border and promoter regions were PCR amplified , and DNA fragments were purified and subjected to direct sequencing. DNA sequences were read by Finch TV and were compared to factor X gene sequence stored in UCSC Genome browser.

Results and Conclusions: Two novel homozygous mutations in the factor X gene were identified. Two patients suffer from a 5' donor splicing site mutation IVS1+1G>T which results in major distortion of the protein structure. Another patient suffer from a missense G>A (Asp 413 Asn) mutation . This amino acid lies in the catalytic domain of the protein which seems to significantly obliterate its function since no other mutation is detected in the gene of this patient. The effect of this mutation has to be directly tested in an expression system for final confirmation. The remaining six patients suffer from homozygosity of a previously identified c358delG deletion mutation (Livnat et al 2011) in three unrelated Palestinian patients causing a frame shift in the reading frame resulting in severely truncated protein. This mutation seems specific to our population since it was not detected in other populations.

Moreover, a novel heterozygous mutation in exon 6 in two patients was identified , in addition to a novel silent mutation in exon 8 in two patients, which presumably represents a novel polymorphism in the gene.

Poster 6

Protective Effect of Nigella Sativa Extract on Alcohol Induced Hepatitis and Expression of TNF- α (Experimental study in Wistar Rats)

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Background: Alcohol intake causes fatty liver, liver tissue inflammation, and liver cirrhosis, Nigella sativa seeds had been reported with anti-inflammatory effect.

Objective: To identify and analyze the protective effect of Nigella sativa extract on alcohol induced liver damage in wistar rats.

Method: This experimental study used randomized post-test control group design in 24 male wistar rats divided into four groups each group contain 6 rats, control group given ethanol 8mg/kgBW/day for 8 weeks, group1 ,group 2,group 3, given Nigella sativa extract plus ethanol after one hour for 8 weeks as 0.5 g/kgBW/day, 1 g/kgBW/day, 1.5 g/kgBW/day respectively, ethanol dose 8mg/kgBW/day, the liver tissue were H&E stained and observed for liver cell changes , *Imunohistochemistry* was done to count the percentage of TNF α in Cytoplasm stained brown color and the intensity of the staining then its classify according to Allred Score.

Result: There was severe, moderate, mild and normal liver tissue for control, group1, group2,and group3 respectively the difference among groups and between each group were statistically significant ($p=0.00$), except between control group and group 1 ($P=0.093$) for the liver tissue damage, there was 3 Allred,2 Allred, 1 Allred and 0 Allred for control, group1, group2, group3 respectively the difference among groups

and between all groups was statistically significant ($p=0.00$) for TNF α expression.

Poster 7

Health Impacts of Facebook Use among Medical and Paramedical Students at Al-Quds University

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Background: Facebook was founded by a Harvard University's student; Mark Zuckerberg in 2004 as a social networking service. Since then, the number of Facebook users has been increased dramatically especially among university students. Facebook surfing hours have been reported to be associated with several impacts on health, social life, and behavior of several population sectors.

Objectives: This study aims to assess the association between Facebook surfing hours and health, behavior, and social interaction among medical and paramedical students at Al-Quds University.

Methodology: A Cross-sectional study was conducted among medical and paramedical students at Al-Quds University, during the period of October to December 2015. The study was based on a self-administered questionnaire of two parts focusing on demographic characteristics and pattern of using Facebook in the first part while the second part evaluating the side effects of Facebook on health, social life, and behavior. Approximately 200 questionnaires were distributed among 42 of medical and 152 of paramedical students. A high response rate was noticed among the participants (97%). The data were processed and analyzed using IBM SPSS v20.

Results: A mean age of 20 years was found among the participants (with a range of 17- 27 years). The majority of participants were females (64.9 %) and were currently in their second year of study (34%). Only one participant didn't use Facebook and all other participants had a Facebook account. Surfing hours of Facebook users ranged

between one to three hours daily (40.2%), especially in evening time (72.1%). Students complained of many health problems that was attributed to Facebook usage, such as eye pain ($P = 0.003$) and back pain ($P = 0.044$). However, no effect was reported among Facebook on the students' academic performance.

Conclusion: It has been evaluated that Facebook is a double-edged weapon, in which it enhances the social relationship with friends but not with family. The study acquitted Facebook from affecting the student's academic performance. Facebook has effects on student's health such as eyes pain, and back pains, and also it has effects on student's behavior.

Poster 8

Association between ABO Blood Group and Diabetes Mellitus in South West Bank – Palestine

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Background: Diabetes mellitus(DM) is one of the most common chronic diseases among Palestinians. In 2010, DM prevalence was 15.9% and 13.2% of Palestinians females and males respectively. Blood group has been reported as a risk factor for DM in several populations, yet it has never been studied among Palestinians

Aim: The aim of present study is to investigate the association of ABO blood groups with diabetes mellitus type II in south West Bank - Palestine.

Materials and methods: We designed a cases-control study which included 59 confirmed diabetic patients and 61 nondiabetic apparently healthy controls during November, 2015. DM Data were collected using personal interview and ABO Blood group were directly tested by the researchers. Diabetic patients were recruited from one central diabetic clinic and some patient's homes in south West Bank. Healthy controls were also recruited from the same health premises like escorting patients or

people who work there in addition to community based controls. Controls were frequency matched to the patients in terms of age and gender. Chi square test was calculated to assess the association between DM status and ABO blood group using IBM SPSS v23.

Results: Our results show that no significant association was encountered between ABO blood groups and Diabetes Mellitus Type II (P-value > 0,05), Frequencies of ABO blood group in patients were (A: 47.5%, B: 13.6%, AB: 6.8%, and O: 32.2%) and in controls were: (A: 39.3%, B: 16.4%, AB: 11.5%, and O: 32.8%).

Conclusion: The findings in this study suggest that ABO antigens are not associated with Diabetes Mellitus.