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Lancet Palestinian Health Alliance Fifth Conference Abstract Book 2014

Amman Jordan

(Abstracts are arranged in order of appearance on the agenda)

Health status and Morbidity pattern among Palestine refugees fled from Syria to Jordan

Amjad Al Shdaifat MDFM, Family Medicine Program Coordinator, Hashemite University, Jordan Dr.Ali Khader, MD, Dr. yousef khader, BDS, MSc, MSPH, MHPE, FFPH,ScD, , Dr.Basam Khnouf,MD, Dr.Ali Odatallah,MD, Dr.Anwar Al-thaher, MD, Bali Samer, BSC, Dr.Ishtaiwi Abuzayed,MD. UNRWA Jordan.

Background: By the end of 2012, the Syrian conflict had already reached the Palestinian refugee camps, with more than half of the Palestinian refugees fleeing to Lebanon, Jordan, or displaced internally. Of about 10, 000 Palestinian refugees from Syria living in Jordan, 200 are hosted in Cyber City in the north, a government appointed refugee camp, and the rest are scattered in the community. This study aimed to assess the morbidity patterns among Cyber City refugees and compare with patterns in other locales where Palestinian refugees from Syria are located.

Methods: Data were collected during the period Jan-Oct, 2013 from 24 UNRWA clinics, Cyber City clinic, and hospital admissions records from four hospitals in north Jordan. Analyses were completed using the Excel toolkit.

Results: Palestinian Refugees paid 13,523 visits to health care centers overall. 10141 (75%) visits were for curative treatment, 1807 (13%) oral treatment, 891(6.5%) maternal health and 684(5%) child care. 26% of all visits were made to the Cyber City clinic where only 200 Palestinian refugees from Syria live. Overall, 214 cases were referred to hospital, 200 from Cyber City and 14 from other community clinics with digestive system (14%), respiratory system (12%), musculoskeletal and connective tissue (10%), circulatory system (9%), endocrine, nutrition, and metabolism related morbidities, Injury, poisoning and other consequences of external causes(9%) , and pregnancy and child birth (8%).

Interpretation: Utilization of health care appears to be significantly higher in Cyber City compared to other locales where Palestinian refugees from Syria are located. This may reflect the stressful and inferior health conditions of Cyber City dwellers. The utilization pattern of primary and secondary care indicates that especially Palestinian refugee from Syria in Jordan's Cyber City may need more attention from the international community. A thorough study of physical health and psychosocial status is strongly recommended.

Word Count:300

Primary Health Care Utilization Pattern amidst Conflict: Case Study of Palestine Refugees in Syria

Dr Irshad Shaikh, Senior, Health policy & Planning Officer, UNRWA HQ, Amman, Jordan, Dr. Sabbagh Tayseer Field Disease Control Officer, UNRWA, Damascus, Syria, Akihiro Seitani, Director of Health, UNRWA HQ, Amman, Jordan, Wafaa Zeidan, Senior Statistician, UNRWA HQ, Amman, Jordan, Ali Khader, Family Health Team Coordinator, UNRWA HQ, Amman, Jordan.

Background Over three years of conflict in Syria have led to displacement not seen in a generation with crisis being labeled as bigger than the one seen in Rwandan genocide or in Balkan wars. Over 500,000 Palestine refugees (PRs) were residing in Syria before the conflict. Today, approximately 235,000 remain internally displaced, while over 70,000 have fled to neighboring countries. Conflict has significantly curtailed health access and services' delivery; recent confirmed outbreak of Polio starkly underscores this situation. Despite challenges, UNRWA has been able to sustain basic health services' provision, data reporting, assessments and monitoring of communicable diseases, etc.

Methods Using the total number of medical consultations for the period Jan – June in 2011, 2012 and 2013, we compared consultation numbers for the three years, with 2011 (start/early conflict) as the baseline. We also assessed reports to check UNRWA health centers' functional status and number of PRs fleeing the country.

Findings Drop in total medical consultations in first six months of 2012 ranged from 10-20% over the baseline. However, for first half of 2013, drop is over 40%. UNRWA operates 23 health centers (HC) providing primary care to PRs in Syria. Out of 23 UNRWA health centers, 9 remain closed while 7 remain partially open. Emergency health services to PRs continued through adjustments to health operations: establishing five health points - outreach facilities; flexible operational hours; allowing health staff to perform duty at the health center closest to home regardless of assigned duty station, etc.

Interpretation Number of medical consultations as high as 60% of pre-conflict levels indicates a resilient health system with good access. Considering 10% of population has fled the country and over 35% of health centers closed, 60% underscores the fact that operational adjustments to health delivery introduced by UNRWA have had a positive impact.

Word Count: 297

Palestinian Refugees from Syria: A Psychological Analysis

Laila Atshan

Background: As a result of the ongoing war in Syria, over 47,000 Palestinian refugees have fled Syria to Lebanon, Jordan, Turkey, and elsewhere. This is the second major trauma for the Palestinian community in Syria, who were violently expelled from their homeland during the Naqba of 1948. The new crisis also awoke an old and ongoing trauma for Palestinians in Lebanon, who already suffer from ongoing prejudice and deprivation in overcrowded refugee camps.

Methods: Participants in the present project were adolescents, parents, psychologists, and medical staff from the Palestinian refugee community in Lebanon. The researcher conducted over six months of focus groups and psychosocial interviews aimed at assessing the psychosocial situation of the refugees and empowering them to cope with ongoing trauma.

Findings: Palestinians already living in Lebanon feel obliged to put their own trauma to the side in order to host the refugees from Syria with the limited space they had. However, the responsibility is overwhelming, which leads to additional complications such as competition for scarce resources and prejudices between sub-communities. Common responses to the cumulative and ongoing trauma are psychosomatic symptoms, which lead to overburdened clinics and hospitals. Due to the limited accessibility of mental health care and stigma associated with psychological treatment, Palestinian refugees often elect to seek medical rather than psychological help.

Interpretations: The experience of trauma is exacerbated by the unpredictability of new wars. The new refugee crisis in Syria and Lebanon awoke a hidden and unresolved fear in all Palestinians. Due to their own ongoing experiences of oppression and deprivation, the host communities in Lebanon lack the emotional and material resources to help Syrian refugees through a new trauma. There is a serious need for psychosocial services in these communities.

Word Count:286

Preparing and updating systematic reviews: Methodology and Process

Loai Barquoni, MD Al Quds University, Ludwig Maximillian University Germany.

Systematic reviews and meta-analyses are widely considered cornerstones for the practice of evidence-based medicine, and to reduce avoidable harm to patients and minimize research waste. Furthermore, new research should begin and end with systematic reviews, to make clear that existing evidence has been taken into account in planning and interpreting new evidence.

As with all forms of research, systematic reviews are susceptible to bias, so it is essential that reviewers publish detailed protocols of their research plans. This begins by formulating a well-defined research question addressing an uncertainty, followed by an extensive search to identify as high a proportion as possible of all relevant published and unpublished studies. At least two reviewers should independently select studies that may be eligible for inclusion in the review; identify those that meet pre-specified eligibility criteria; and then extract data from these using a standardized data extraction sheet. The quality of each included study should be assessed carefully, including different items such as random allocation concealment and blinding. The characteristics of each included study should be summarized in tables.

If appropriate and possible, meta-analysis should be undertaken to estimate overall intervention effects, which should be shown graphically. Exploratory subgroup analysis may be appropriate when there is evidence of heterogeneity. The implications of the results for practice and future research should be discussed. Reviewers should endeavour to keep their reviews up-to-date, both to take account of newly identified evidence, and to correct any mistakes identified.

I will use the Cochrane systematic review of interventions to treat phosphorous burns to illustrate the application of these principles in practice.

Word Count: 261

Effects of drinking water quality on health in the Gaza Strip: results of a systematic literature review

Bjørn G. Iversen WHO, National Institute of Public Health Project Emily MacDonald Department of Infectious Disease Epidemiology, Norwegian Institute of Public Health, Oslo, Norway, Bernardo Guzman Herrador, Department of Infectious Disease Epidemiology, Norwegian Institute of Public Health, Oslo, Norway, Line Vold and Karin Nygård, Department of Infectious Disease Epidemiology, Norwegian Institute of Public Health, Oslo, Norway, Mohamed Lafi and Walaa Ammar World Health Organization, Gaza Office, Susanne Hyllestad, Vidar Lund Department of Food, Water and Cosmetics, Norwegian Institute of Public Health, Oslo, Norway

Background: Drinking water quality in Gaza Strip has been severely compromised due to increasing salinity of groundwater, contamination of water resources with fertilisers, pesticides and solid waste, and lack of adequate water and sewage treatment options. We conducted a systematic literature review to identify studies examining the association between drinking water and morbidity in Gaza Strip in order to identify areas in need of further investigation.

Methods: We searched PubMed and SCOPUS databases for articles published 2000-2013 using a combination of keywords related to “water” and “Gaza”. To identify unpublished studies, information was collected from health authorities, universities, non-governmental and other relevant organisations and websites in Gaza Strip.

Findings: We identified 304 studies on water quality in Gaza Strip. Of these, only nine studies examined the association between water consumption and health outcomes. Five studies addressed gastrointestinal infections, of which four found an association between specific water sources and gastroenteritis. The fifth study found that lack of public water access at home was independently predictive of diarrhoea. One study found a significant positive association between methaemoglobin levels in infants and nitrate concentration in groundwater. One study found an association between low levels of iodine in groundwater and iodine deficiency in children. One of two studies examining fluoride levels found a positive correlation between high fluoride concentrations in groundwater and occurrence of dental fluorosis among school children.

Interpretation: Our findings suggest that consumption of water of poor quality leads to increased morbidity in the Gaza Strip. Despite the volume of studies on water quality in general, few studies specifically assess the link between water quality and health effects. Targeted studies are needed to investigate the burden of disease associated with water from different sources and districts in the Gaza Strip, including an estimation of long term effects of consuming substandard water.

Word Count: 300

The First Evidence-Based Health Care (EBHC) Conference in Palestine: was it a success?

Khamis Abdelkarim Elessi Director, EBHC Unit, Faculty of Medicine, Islamic University-Gaza (IUGAZA), Omar Ferwana Dean, Faculty of Medicine, IUGAZA, Fadel Naim Ass't prof. Faculty of Medicine, IUGAZA, Palestine.

Background: The principles of EBHC are not widely appreciated in Palestine. Over the past five years interest in EBHC in Gaza has been generated through a series of lectures and workshops run by the EBHC Unit at the Islamic University. To further promulgate the principles and practice of EBHC in Palestine, and to raise awareness of differences between local practice and best evidence, a 2-day conference was organized.

Objectives: To promote the principles of EBHC, and to improve clinical practice in 15 specific areas of clinical practice.

Methodology: Five subcommittees were established addressing, respectively, general surgery, general medicine, pediatrics, obstetrics, and orthopaedic and neurosurgery. Each subcommittee comprised a senior specialist and junior specialists, and was given 5 months (i) to identify the three most common conditions seen in their respective specialties; (ii) survey current practice in the management of these conditions; (iii) search for the best available evidence relevant to managing these conditions; and (iv) prepare presentations comparing current local practice and with practice according to best evidence. A preparatory workshop was held for members of the subcommittees.

Main Results: All five subcommittees adhered to the requirements and timetable and presented their findings at the conference. In 5 out of the total of 15 themes addressed there was concordance between local practice and best evidence, but discordance in the remaining ten.

Interpretation: The conference was able to raise awareness of EBHC among nearly 500 physicians and other health workers who attended, and the research conducted in preparation for the conference showed how local current practice could be improved.

Conclusions: The conference proved to be a success, and there is a gap between current practice in GS and best evidence in most selected themes.

Word Count: 283

Mechanical Bowel Preparation before Elective Colorectal Surgery in Gaza strip: Is it mandatory or optional?

Zuhdi ELifranji, Faculty of Medicine, Islamic University, Islamic University, Gaza, Palestine, Elessi Khamis Faculty of Medicine, Islamic University, Islamic University, Gaza, Palestine, Tawil Spero Department of Surgery, Al-Shifa Hospital, Gaza, Palestinian Territories.

Background: Mechanical bowel preparation (MBP) is a routine preoperative procedure for elective colorectal surgery. Most general surgeons in Gaza Strip (GS) believe that postoperative complications and leakage are directly related to colonic cleanliness.

Methods: a self -designed questionnaire composed of 5 major questions aiming to compare local surgeons' current practice with the best available evidence. Questionnaire were answered by 7 most senior surgeons in European Gaza hospital and Shifa Hospital (the biggest 2 hospitals in GS). This was followed by up-to-date search for best evidence on Cochrane library using the following words and syntax (Colonic or colon OR Colorectal elective surgery AND Mechanical Bowel Preparation OR enema).

Findings: All 7 surgeons stated that they use MBP routinely before elective colonic or rectal surgeries. Two of them use MBP for left colonic surgery alone and other five doctors use it for both right and left colonic surgery. One surgeon was only using rectal enemas; one surgeon used rectal enema + oral fluids for 48 hours + oral laxatives. Two surgeons used rectal enema and oral MBP and 3 surgeons used oral quick prep formula alone. All 7 surgeons used systemic antibiotics preoperatively.

Interpretation: Gaza General Surgeons use different approaches of MBP for different types of elective colorectal surgery based on the belief that it lowers the incidence of postoperative complications and anastomosis leakage while available Cochrane data tells us that there is no strong evidence that favors mechanical bowel preparation, nor the use of rectal enemas over no preparations.

Conclusions: There is a wide gap between current practice in GS and best available evidence regarding MBP. Best Evidence suggests that MBP is not mandatory prior to elective colorectal surgery; it can be safely omitted without increasing the complication rate as long as good antibiotics prophylaxis is given.

Word Count:297

Management Of Non-variceal Upper Gastrointestinal Bleeding In Gaza strip: Is it evidence-based or not?

Dr Alaa Al-Masri Head of Internal medicine department at Nasser hospital khanyounis city, Palestine, Dr. Marwan Al-Aqad, Dr. Khamis Elessi, Dr. Khaled Matar, Osaid H. Alser, Dr. Afaf Elsafeen.

Background: Upper gastrointestinal bleeding (UGIB) refers to hemorrhage from the upper gastrointestinal tract and can be divided broadly into variceal and non-variceal types. We compared the current management strategies of non-variceal UGIB in the two main hospitals in Gaza strip (European Gaza Hospital (EGH), and Shifa hospital (SH)).

Methods: A Self-designed questionnaires covering the 5 main approaches in the management of Non-variceal UGIB was used, 47 Questionnaires were distributed .Questions included: target HGB for blood transfusion, duration of proton pump inhibitors (PPIs) infusion after endoscopic therapy, use of nasogastric tube (NGT), use of endoscopic stigmata of recent hemorrhage to predict re-bleeding. And the re-use of aspirin after UGIB.

Findings: Answers were compared with the best available evidence from the American College of Gastroenterology (ACG) guidelines published in 2012.

Regarding the target of HGB for transfusion, only 20% of responders chose 7g which matches with the ACG guidelines, while 80% were far away from these recommendations. Regarding duration of IV infusion of PPIs following endoscopic therapy, only 25 % follow the evidence, while 75 % were not. About 90 % of responders do not use NGT routinely, which was concordant with the ACG recommendations, while 10 % still use it.

Luckily 80% of responders use endoscopic stigmata of recent hemorrhage, which agrees with the ACG guidelines. Finally, only 40 % of responders matched the ACG guidelines regarding reuse of aspirin after non-variceal UGIB, while 60% were away from it.

Interpretations: Collectively, about half of responders matched the guidelines, which means that only half of doctors' decisions taken to treat non-variceal UGIB in Gaza are guided by best available evidence.

It is clear that our clinical practice and medical education rely on outdated textbooks and on experiences which are not always valid.

Word Count: 290

Measuring safety culture in Palestinian neonatal intensive care units using Safety Attitudes Questionnaire: a baseline study for quality improvement.

Motasem Hamdan, PhD School of Public Health, Al-Quds University

Background: Patient safety culture is a central element in improving quality and safety of care. A safety culture of health care organization contributes to the promotion of an environment that enables the provision of safe care. Newborns in the neonatal intensive care units (NICUs) are a particularly vulnerable group. Evidence shows that neonates in the NICUs experience a significantly higher potential for medication errors and adverse events rate than do patients in other wards of the hospital. This study aimed to measure safety culture, examine variations among NICUs, and assess the associations with caregiver characteristics.

Methods: A cross-sectional design was used, utilizing the Arabic version of the Safety Attitudes Questionnaire, administered to all 305 nurses and physicians working in all the 16 NICUs in the West Bank.

Findings: There were 204 participants, comprising of mainly nurses (80.4%), women (63%), 30 years or younger (62.6%), holding a bachelor's degree or more (66.7%), and with at least 5 years of experience in the profession (60.3%). Safety Attitudes Questionnaire mean domain scores ranged from 71.22 for job satisfaction to 63 for stress recognition on a 100-point scale; the scores varied significantly among NICUs ($P < .05$). About 85% of the participants rated the safety grade either excellent or very good; 71.0% did not report any event in the past year.

Interpretation: There is large variations in safety culture within and between a comprehensive sample of Palestinian NICUs. The findings suggest the need for a customized approach that builds on existing strengths and targets areas of opportunities for improvement to optimize health care delivery to the most vulnerable of patients, sick newborns in the NICU setting.

Word Count: 270

Quality of Diabetic Care and Patients' Satisfaction at Shouka Health Center, Gaza Strip, Occupied Palestinian territory.

Dr Imad El Awour, UN Relief and Works Agency for Palestine Refugees in the Near East, Health Department, Gaza Strip 101, occupied Palestinian territory, Iyad Jomah, medical officer, diploma pediatrics, Islamic university, Alla Abu Teima, SPN, UNRWA

Background: Diabetes mellitus(DM) is considered epidemic worldwide . It is expected that 438 million people will be affected by DM in 2030. Therefore , it is necessary to assess the quality of diabetic care from different dimensions, including patients' perspectives.

Methods: The Shouka Health Center- an UNRWA affiliated health center- diabetic records(81) were collected from, August to October,2011 to assess completeness of diabetic files, nurses' and doctors' management plans through a modified UNRWA Gaza Field health Program checklist which was sub scaled from 1-3 for each component and the sum of three components multiplied by 100 was used as an overall scaled index of the quality of Diabetic care; additionally the satisfaction of diabetic patients in five domains that address health provider care, communication and self-care was assessed through exit interviews using a modified version of Diabetic Continuity of Care Scale(cronbach's alpha, 0.75). The study was approved by Helsenki committee and a written informed consent was obtained. The differences between grouped variables was assessed using chi square, t test at a significance level of P value <0.05 using SPSS, 11.5 .

Findings: The overall scale of the diabetic care quality was 85.48%. Doctor's management plans subscale was the lowest (77.9%). Completeness of patients records subscale was the highest(97.75%). There was a significant positive correlation between doctors management plans, completeness of files and overall satisfaction($r=0.25$, $p=0.03$, $r=.27$, $p=0.02$, respectively) and with access/care domain($r=0.27$, $p=0.01$, $r=0.23$, $p=0.05$ respectively) but there were no significant correlation between the quality of diabetic care index and the overall satisfaction($r=.16$, $p=0.19$).

Interpretation: Training of doctors to properly manage the diabetic patients should be intensified. Attitude of the staff and their commitment can increase the overall satisfaction of patients. The prevailing poor socioeconomical status of the participants could be behind the obscure relationship between overall satisfaction and the diabetic care quality.

Word Count:300

Four-Year experience of the Jordanian Committee for the Support of the Health Sector in Gaza (JCSHSG)

Ammar Daoud, Department of Medicine – Faculty of Medicine – Jordan University of Science and Technology, Aly Mishal, MD.

Background: The health care system in Gaza has been suffering from chronic and serious deficiencies in many aspects including qualified medical personnel. The aim of this study is to review the roles and activities of the JCSHSG in improving the medical care of the Palestinian people in Gaza.

Methodology: This committee is an NGO formed in Jordan in 2009 by four health professional associations (Jordan Medical Association, Jordan Dental Association, Jordan Nursing and Midwifery Association and Jordan Pharmacist Association) to support their counterparts in Gaza. The activities included arranging for doctors and needed medical personnel to visit Gaza with equipment and consumables, establishing a video conferencing unit for telemedicine and teaching and establishing a program of accepting medical personnel from Gaza to be trained in Jordanian medical Institutions. We reviewed the numbers and specialties of trainees in Jordan from Gaza by the JCSHSG.

Results: Since 2009 a total of 84 medical personnel have been trained or currently training in Jordan. 54 medical doctors were trained in multiple major and minors subspecialties (45 full medical board training and 9 short needed training courses). 3 dental doctors trained in board and masters degrees from Jordanian Universities. 27 nurses were trained in either masters degrees or training courses. For the video conferencing unit an average of 100 hours of unit usage is reported each year for medical, dental, pharmacy, medical technologies and nursing courses.

Conclusions: Capacity building in the qualified human resources with training and continued education is the most needed step for improving any health system for any community, especially in an area which densely populated and health services deprived like Gaza. The 4 year experience of JCSHSG in training badly needed health personnel from Gaza in Jordan help unify the health delivery system for the Palestinian people.

Word Count:300

Distribution and Factors Associated with the Occurrence of Road Traffic Crashes in the West Bank: A Cross-Sectional Study (Sep. 2009 – Sep. 2012)

Amira Shaheen, Assistant Prof. of Child health, epidemiology, and environmental health at An Najah National University, Mohammed Awad Intern Doctor at Thabet Thabet Hospital, Omar Abu-Zaydehc Surgical Resident at Al-Makassed Hospital, Jon Mark Hirshond Associate Professor of Emergency Medicine, Epidemiology and Public Health, University of Maryland

Background: In spite of a notable increase in the RTCs casualties in the West Bank; little attention is given to this problem in public health research. The aim of this study is to investigate the distribution and associated factors with the occurrence of RTCs in the West Banks (Sep 2009 – Sep 2012).

Methods: This cross-sectional study included all RTCs casualties that were provided by the unit on RTC at the Palestinian Ministry of Health. Data on road traffic casualties are filled in an information sheet by the doctors in the West Bank hospitals who are responsible for the management of these cases. On weekly basis these data are transferred to the RTCs Unit at the PMOH. SPSS16 was used to analyze these data.

Findings: Over the period (Sep 2009-Sep 2012) 24756 injured cases due to RTCs were reported, including 134 deaths. Injures were predominant among males (74.4%), and among the age group (18-45) years (52.3%). North West Bank observed to have the highest percentage of RTCs (48.4%). Casualties were varied by months, the highest to be reported was in September (11.06%), August (10.21%), and July (10.03%). The highest percentage of injuries due to RTCs was reported among passengers travelling in a vehicle with four wheels (44.8%). Head injury was the frequent cause of death among casualties (n=52, 38.80%). Significant associations were observed between the occurrence of RTCs with age and district.

Interpretation: The results of this study revealed a significant increase in RTCs casualties during the month of Ramadan. We recommend conducting a study to investigate in depth this issue. Indeed, we recommended merging the two reporting systems (the police and the MOH) in order to get more precise view about RTCs situation in the West Bank.

Word Count: 287

Psychosomatic symptoms and self-reported stressful working conditions among Palestinian female and male nurses: a cross-sectional study.

Yousef M Jaradat Faculty of Nursing, Hebron University, Hebron, Occupied Palestinian Territory, Rita Bast-Pettersen (PhD) Department of Occupational Medicine and Epidemiology, National Institute of Occupational Health, Oslo, Norway, Khaldoun Nijem (PhD) Occupational Epidemiology and Biological Research Lab, Department of Biology, Hebron University, Occupied Palestinian Territory, Lars Lien (MD, PhD) Hedmark University College, Campus Elverum, National competence centre for dual diagnosis, Innlandet Hospital Trust, Hamar, Norway, Hein Stigum (PhD) Section for Preventive Medicine and Epidemiology, Institute of Health and Society, University of Oslo, Norway, Norwegian Institute of Public Health, Oslo, Norway, Espen Bjertness (PhD) Section for Preventive Medicine and Epidemiology, Institute of Health and Society, University of Oslo, Norway, Tibet University Medical College, Lhasa, Tibet, China.

Background: High levels of perceived stressful working conditions have been found to have an adverse effect on physical and mental health of nurses. Palestinians are at high risk of exposure to traumatic events that may produce stress reactions. The aims of the study were to examine the associations between self-reported stressful working conditions and psychosomatic symptoms among nurses in Hebron district, Palestine, and to investigate whether there were gender differences in perceived stressful working conditions and psychosomatic symptoms.

Methods: A cross-sectional study was conducted among 442 nurses employed in health care settings in Palestine, of which 266 (60 %) were women and 176 (40 %) were men. A nine-point ordinal scale of self-reported perceived stressful working conditions was categorized into low, medium or high levels, and a Psychosomatic Symptoms Checklist was used to record the prevalence of psychosomatic symptoms.

Findings: Low levels of stressful working conditions was reported by 53 (12.3 %) nurses, whereas medium and high levels were reported by 204 (47.4 %) and 173 (40.2 %), respectively.

The median score of psychosomatic symptoms for the group was 11, ranging from 1 to 21. Women reported more symptoms than men (medians 11.6 vs. 10.0 $p < 0.0001$).

Men with high self-reported stressful working conditions had a median number of self-reported psychosomatic symptoms that was 5.4 units higher than men with low self-reported stressful working conditions. This tendency was weaker among female nurses; however, women working long hours did report higher levels of psychosomatic symptoms.

Interpretation: This study showed that psychosomatic symptoms were associated with high self-reported stressful working conditions, and the association was strongest among the men. Because the study had a cross-sectional design and both exposure and outcomes were measured using self-report, interpretation of the results should be made with caution. Longitudinal epidemiological studies are recommended.

Word Count: 298

Prevalence of Noise-Induced Hearing Loss and Associated Factors among Manual Stone-Saw Workers in West Bank-Palestine.

Hatim Jaber MD MPH JBCM PhD (cand.) Consultant Community Medicine.

Introduction: Noise induced hearing loss (NIHL) is a major preventable occupational health hazard. In manual stone-saw workshops, the work of the machines produces noise that can cause irreversible damage to workers hearing.

Objectives: The purpose of this research is to determine the prevalence of NIHL among workers of stone-saw industry in Palestine, to verify its intensity, observe the age groups most affected, identify the riskiest factors and correlate with the time of exposure to the noise.

Method: During April-May 2012, a crosssectional study of 259 workers, who were available at all stone-saw workshops located around the valley between Nablus and Tulkarm in West Bank, Palestine, evaluated through interviews with self-prepared questionnaire, detailed history and clinical examination of ear, and occupational audiometry was performed. NIHL was defined by the presence of a notch 15 dB in depth at 4000 or 6000 Hz relative to the best preceding threshold. Environmental inspection and noise level was measured by noisedosemeter in these workshops and found to be between 93-123 dB. The respondents were all male, mean age group was 36.85 years and mean duration of service is 13.36 years.

Results: The prevalence of NIHL was 45.2%, with predominance of hearing loss of first and second degree (49.6% and 48.7%), according to Meluzzi's classification, and 1.7% third degree. A significant associations ($p < 0.05$) were identified from multivariate analysis between these cases and the variables of age, **length of service of 10 or more years and current occupational noise exposure.**

Conclusion: Manual stone-saw workers are at constant risk of NIHL. Screening for hearing loss is recommended for people exposed to noise. This results prove that in Palestine, as in other developing countries, NIHL prevention programs and legislation theoretically exist but with poor implementation and enforcement.

Word Count: 288

Perceived physical and psycho-social adaptations during the perinatal period:

Insights from Palestinian women and men in a remote West Bank village.

Sahar Hassan Institute of Community and Public Health, Birzeit University, Section of Preventive Medicine and Epidemiology, Department of Community Medicine, Institute of Health and Society, Faculty of Medicine, University of Oslo, Oslo, Norway, Espen Bjertness, Section of Preventive Medicine and Epidemiology, Department of Community Medicine, Institute of Health and Society, Faculty of Medicine, University of Oslo, Oslo, Norway, Laura Wick, Institute of Community and Public Health, Birzeit University, Ramallah, West Bank.

Background: Despite its centrality in ensuring maternal/infant health, coverage and quality of postnatal care in Palestine, as well as information about morbidities and challenges facing families, remain inadequate. In planning a postnatal home-visiting program, we explored rural women's and men's views of physical and psycho-social adaptations before, during and after childbirth in Beit Liqya village (area C), where rapid transformations of the geopolitical landscape affect everyday lives and practices.

Method: In 2012, following ethical approval and informed consent procedures, we conducted four focus groups with women and one with men of different ages, using an open-ended guide. Participants included 44 women (aged 21-70 years; nine pregnant; four childless) and nine men (aged 24-71 years). Data was analyzed by themes.

Findings: The diversity of participants provided rich perspectives on societal changes. Five main themes emerged: transitions in men's paternal and spousal roles and in women's life styles; the institutionalization of childbirth, midwives and physicians replacing the traditional *daya*; psycho-social adaptation after birth; and views about health services. Today, men participate more in pregnancy, childbirth, and postpartum family life. Women's diet is less nutritious; they are not as active during pregnancy due to reduced agricultural labor, and are more focused on medical controls. The postpartum period was viewed as a crucial time for recovery with strong family support. They expressed a preference for female healthcare providers.

Interpretation: Findings deepened our understanding of rural women's and families' needs and views regarding pregnancy, birth and postpartum. Listening carefully to their voices is essential to making health and community care effective and responsive to their needs and those of other marginalized groups.

Word Count:267

Mothering within the context of political violence: An exploratory study of mental health risks and resilience

Cindy Sousa, PhD, MSW, MPH Assistant Professor Graduate School of Social Work and Social Research
Bryn Mawr College, Second Author: Palestinian Medical Relief Society, Ramallah West Bank

Background: At the precise moment when they are most needed, political violence jeopardizes the abilities of parents to ensure safety, structure, and sustenance for their children, resulting in risks to not only children's well-being, but also to the mental health of parents. Despite a few studies linking parents' inability to protect their children to profound distress for parents, there is insufficient knowledge about how, within political violence, parents both encounter unique threats to well-being and strategize to build individual and family resilience.

Methods: In 2008, a collaborative team conducted five focus groups in Arabic with Palestinian women in the West Bank (N=32) about political violence and resilience. After two translations were produced, discrepancies were discussed and jointly resolved by the research team. Data were analyzed using conventional content analysis.

Results: As they detailed the political violence they experience, women reported routine threats to their ability to protect and care for their children. Restrictions on movement for Palestinians infringed upon on mothers' attempts to obtain medical care for children and their efforts to bring children to visit family, holy sites, and traditional lands. Women described helplessness and grief in the face of their children's fear, and distress as they struggled to simultaneously shield children from and help children make sense of the suffering. Women's narratives also detailed regular attempts at resistance, both small and large, wherein mothers strategized to ensure the safety, dignity, and continuity of themselves, their family, and their culture.

Implications: Results add new dimensions to scholarship about health and the family within political violence. Findings reveal how political violence presents exceptional challenges for Palestinian mothers, and poses unique threats to well-being of women and families. This study also highlights the practices of mothering women utilize in attempts to promote individual, family, and cultural resilience within ongoing political violence.

Word Count: 300

Examining the impact of son preference on fertility in the occupied Palestinian Territory.

Weeam Hammoudeh, Brown University.

Background: Palestinian fertility has come to be termed as a ‘demographic puzzle’ due to the persistence of high fertility despite favorable levels of women’s education, urbanization, infant mortality, and access to contraception compared to other Arab countries. While various explanations of Palestinian fertility have been put forward, the role of son preference in impacting Palestinian fertility has not been studied empirically in this context, despite some anecdotal evidence indicating that the desire to have at least one son drives women to continue having children even when they have reached their desired number of children. This study aims to understand the role son preference and sex distribution of current children play in fertility behavior in the occupied Palestinian territory (oPt).

Methods: This study utilizes data from the birth history calendar in the 2006 Palestinian Family Health survey. Event history analysis techniques are used in order to examine whether son preference and the sex distribution of children have a significant effect on the probability of a subsequent birth. In general, we test whether having more sons at any given parity level impacts the odds of having a subsequent birth.

Findings: The results of the analyses conducted indicate that son preference does have an effect on fertility behavior. The results of this study show that after controlling for socio-demographic characteristics, women with more sons were less likely to move on to a subsequent birth all parity levels. Some socio-demographic characteristics, including place of residence, age, and education were also found to be significant predictors of fertility.

Interpretation: In sum, we find that even within the context of high fertility and a relatively normal sex-ratio at birth in the oPt; the sex composition of children has an impact on individual fertility behavior where women with no sons or fewer sons are more likely to have subsequent children.

Word Count: 303

Palestinian Women, Settler Colonialism, and the Politics of Birth in Occupied East Jerusalem

Nadera Shalhoub-Kevorkian Director of Gender Studies, Mada al-Carmel, Haifa

Understanding the meanings ascribed to and experiences of childbirth for women in areas of conflict are complex. Based on a recent study and data collected from pregnant and birthing women, this paper explores the politics and practices of pregnancy and childbirth for Palestinian women living in occupied Jerusalem. The paper will share women's particular experiences, understandings and practices on a multiplicity of dimensions, including psychological, social, political, physical and spatial. This will enable me to forge a well-rounded account of women's birthing experiences in Jerusalem, as well as reflect on the consequences of colonization, occupation and broader Israeli politics on women's bodies and lives.

The presentation will be overlaid with a spatial and temporal analysis, as I will focus on identifying how living in different areas in Jerusalem affects women's experiences in their most fragile condition, when and while giving birth. Specifically, women's locations in Jerusalem and the wider Jerusalem area will be examined so as to map the overall situation for pregnant and birthing women. Considering the fragmentation of 'East' Jerusalem by various checkpoints, walls and other restrictions of movement (generally enacted by the municipality under the guise of 'security'), this spatial emphasis is key to understanding the issues faced by pregnant and birthing Palestinian women.

I will conclude by showing that whereas research on childbirth in general ranges from micro- to macro-analyses, political, psychological to medical disciplinary emphases; my study on birth in Occupied Jerusalem considers dimensions like race, class and culture, and adopts a macro-perspective based on the settler colonial theorization. The study suggests that women's birthing experience, and childbirth in occupied Jerusalem requires a closer look at the effect of structural violence, mainly the way in which Israel's settler colonial policies evict birthing women from the realm of humans.

Word Count: 293

Prevalence and predictors of double burden of malnutrition in under-5 year old Palestinian children: data from the 2010 Multiple Indicator Cluster Surveys

Hala Ghattas, PhD Center for Research on Population and Health, Faculty of Health Sciences, American University of Beirut, Beirut, Lebanon, Khalil El Asmar, MSc, Center for Research on Population and Health, Faculty of Health Sciences, American University of Beirut, Beirut, Lebanon, Moubadda Joseph Assi, BSc Center for Research on Population and Health, Faculty of Health Sciences, American University of Beirut, Beirut, Lebanon Carla Makhoul Obermeyer, DSc, Center for Research on Population and Health, Faculty of Health Sciences, American University of Beirut, Beirut, Lebanon

Background: We aimed to compare the prevalence of stunting and overweight in under-5 year old Palestinian children living in Lebanon and Palestine and to investigate the predictors of under- and over-nutrition in these populations.

Methods: We used data on maternal and child health, socio-demographic variables and anthropometric measurements from the 2010 Multiple Indicator Cluster Surveys (MICS) conducted among Palestinian refugees living in Lebanon (N=1,922) and the State of Palestine (N=11,273). Z scores for height-for-age and BMI-for-age for children under-5 were based on WHO Child Growth Standards. Prevalence of stunting, overweight and double burden (stunted overweight children) was estimated. Logistic regression was used to model predictors of stunting, overweight and double burden (STATA version 13, College Station).

Findings: Prevalence of stunting, overweight, and double burden was higher in Lebanon than Palestine (10.9% vs 10.1%; 11.3% vs 5.8%; and 3.2% vs 1.9% respectively). After adjusting for covariates, predictors of stunting were child age (p=0.05) and region of residence in Lebanon (p=0.001), and male gender (p=0.02), maternal education (p=0.01) and region of residence in Palestine (p<0.001). Predictors of overweight were stunting (OR=4.30; 2.98-6.20, for Lebanon; OR=4.48; 3.63-5.54 for Palestine), male gender (OR=0.72; 0.53-0.98 for Lebanon and OR=0.79; 0.66-0.96 for Palestine), region (p=0.003 and p<0.001 respectively), and higher wealth index in Palestine (OR=1.3; 1.1-1.5). Double burden varied by region (p<0.001 in Palestine, p=0.006 in Lebanon).

Interpretation: Stunting was a strong predictor of overweight in under-5 year old Palestinian children, with boys at a higher risk than girls. Vulnerability to child malnutrition varied most strongly by region of residence, highlighting the role of structural factors. Nutritional interventions targeting the common structural determinants of stunting and overweight should be targeted to these subpopulations.

Word Count: 276

Overweight and fertility: a follow-up study among rural Palestinians.

Petter Kristensen, Department of Community Medicine, Institute of Health and Society, University of Oslo, Department of Occupational Medicine and Epidemiology, National Institute of Occupational Health, Oslo, Norway, Markku Sallmén (PhD), Centre of Expertise for Health and Work Ability, Finnish Institute of Occupational Health, Helsinki, Finland, Yaser Issa (PhD) Occupational Epidemiology and Biological Research Lab, Department of Biology, Hebron University, Palestine, Khaldoun Nijem(PhD) Occupational Epidemiology and Biological Research Lab, Faculty of Science and Technology, Hebron University, Hebron, occupied Palestinian territory, Espen Bjertness (Prof. PhD) Section for Preventive Medicine and Epidemiology, Department of Community Medicine, Institute of Health and Society, University of Oslo, Tibet University Medical College, Lhasa, Tibet, People's Republic of China,

Background: Obesity is an increasing public health concern worldwide, including Palestine. Overweight or obese women are at increased risk of reduced fertility. Male obesity has been associated with sex-hormone alterations and reduced semen quality. Large retrospective studies have linked elevated male body mass index (BMI) with reduced fertility. Our aim was to assess the impact of elevated BMI on couple fertility among newly married rural Palestinians.

Methods: The study included all 331 newly married couples in two villages in Hebron Governorate, 2005–2007, planning their first pregnancy. Couples were followed prospectively from marriage until pregnancy or a maximum of 12 months. Complete participation and almost complete follow-up were reached. BMI was classified as underweight (<18.5), normal-weight (18.5–24.9), overweight (25.0–29.9), and obese (\geq 30). Adjusted fecundability density ratios (aFDR) were estimated using discrete proportional hazards regression. Adjustment was made for age, education, occupational exposures, frequency of intercourse, and residence.

Findings: Prevalences of overweight and obesity were 16% and 3% in wives, and 32% and 8% in husbands. Wives had reduced fecundability in association with increased BMI: aFDRs were 0.71 (95% confidence interval: 0.50–1.01), and 0.49 (0.21–1.14) for overweight and obese, respectively (reference underweight/normal-weight). In husbands, a non-significant opposite tendency was found along with increasing BMI: aFDRs were 1.16 (0.88–1.51) for overweight and 1.34 (0.88–2.05) for obesity.

Interpretation : Female BMI results are consistent with literature but our male findings contradict retrospective studies conducted in Western countries. However, consistent with our findings, a Danish follow-up study found no clear association between male BMI and fecundability. Methodological differences may in part explain varying findings. Also, the relation between BMI and fertility may not be universal. Elevated BMI could be related to poor health and habits in Western populations whereas it could be a sign of high quality of life in rural Palestine.

Word Count: 304

Feeling Broken or Destroyed: Elaborating the Nature of Suffering in the oPt

Brian K. Barber Center for the Study of Youth and Political Conflict University of Tennessee,

Background: Most studies of political conflict import standardized mental health measures. In contrast, this study discerned and tested a locally defined form of suffering in the oPt that we labeled *Feeling Broken or Destroyed*.

Methods: The construct was discerned in group interviews in 2010 of 68 30-40 year-old residents of the West Bank, East Jerusalem, and the Gaza Strip, who were asked to discuss quality of life/wellbeing. Corresponding survey items were then written and administered to representative samples in June (n=508) and November (n=1,800), 2011. Data were collected by the Palestinian Center for Policy and Survey Research.

Findings: Interview participants referred to a type of suffering not included in standard mental health instruments, including being or feeling: *broken* (محلطة), *shaken up* (مهزوزة), *destroyed* (مدمرة), *crushed* (محلطة), and *exhausted* (تعابنة). The survey items we wrote to tap these sentiments included: (0 *never* to 5 *regularly*; past two weeks):

“felt that your spirit or morale is broken or destroyed?” (كم مرة أحسست بأن نفسياتك ومعنوياتك محلطة؟)

“felt that your ambitions and hopes for the future are destroyed?” (كم مرة أحسست بأن طموحك أو آمالك بالنسبة للمستقبل محلطة؟)

“felt emotionally or psychologically exhausted?” (كم مرة أحسست بأنك مرهق عاطفيا أو نفسيا؟)

Internal consistency of these 3 items across main sub-groups ranged from: .80 to .84 (Study 1) and .83 to .87 (Study 2). Factor analyses showed that these items factored separately from standard mental health items. Further reflecting scalar independence, *feeling broken or destroyed* was only moderately correlated (at the same strength in both studies) with: *feelings of depression* (.55; $p < .001$) and *trauma-related stress* (.21; $p < .001$).

Conclusion: Unique aspects of suffering in the oPt can be discerned through careful interviewing, and they can be reliably measured, tested, and distinguished from traditional mental health measures quantitatively in large, representative samples.

Word Count: 300

Exploring the relation between camp-level relative deprivation and self-rated health among Palestinian refugee women in Lebanon

Nisreen Salti PhD; Department of Economics, American University of Beirut, Sawsan Abdulrahim, PhD; Department of Health Promotion and Community Health, Faculty of Health Sciences, American University of Beirut.

Background: The relative deprivation hypothesis posits that health is determined not only by absolute economic status but also by an individual's relative position in the socioeconomic hierarchy. Controlling for absolute socioeconomic status, poor individuals in an equal society experience less deprivation and, in turn, exhibit better health than poor individuals in unequal societies. Whereas relative deprivation has been examined in high-income countries with differing levels of inequality, we test its applicability among Palestinian refugee women in Lebanon.

Methods: We used data from the UNRWA-AUB Socioeconomic Survey of Palestine Refugees in Lebanon (2010). The sample includes 1130 women living in 12 refugee camps. A relative deprivation measure was calculated for each case in the sample using Yitzhaki's index, based on the distribution of non-health expenditures in the camp of residence. For the analysis, we ran a series of linear and logistic regression models to test the association between relative deprivation and reporting poor self-rated health (SRH), controlling for age, education, household size, camp, and household non-health expenditures per capita.

Findings: The findings revealed that controlling for non-health expenditures (an absolute economic status measure) relative deprivation is highly significant in predicting poor SRH. This result is robust to the estimation technique. It continues to hold when SRH is measured using a 5-point scale, when we control for chronic conditions, and when we use total expenditures rather than non-health expenditures.

Interpretation: Our findings are consistent with the relative deprivation hypothesis for SRH, with refugee camp of residence as the reference group. While the mechanisms through which relative position in a socioeconomic hierarchy affects health remain poorly understood, the relationship is at play even in settings of absolute deprivation. Potential explanations for the significance of relative deprivation in the context of Palestinian refugee camps in Lebanon will be discussed in the paper.

Word Count: 298

A preliminary study of emotional and behavioral problems among children living in unrecognized Bedouin villages in the Naqab.

Ahmad Sheikh Muhammad, The Galilee Society - The Arab National Society for Research and Health Services - Rikaz Databank, Mohammad Khatib MPH, Phd The Galilee Society - The Arab National Society for Research and Health Services - Rikaz Databank.

Background: 45 Bedouin villages in the south of Israel (Naqab) are unrecognized by Israel. Citizens living there do not receive basic services including running water, sewerage, education, health and transportation. About 65% of these families are poor. There are no published normative data regarding emotional or behavioral problems of children among the Bedouin Arabs as well as the general Israel Jewish and Arab population.

Methods: Maternal ratings of children's emotional and behavioral problems were obtained by using the Strengths-and-Difficulties-Questionnaire, family socio-demographic traits, and children's exposure to traumatic events. 458 Children belonging to 205 mothers, aged 4 – 10 living in 3 unrecognized villages with a total population of about 12,000 were included in the study. Anova Analysis was used to compare means. Complex Sample Analysis was also used to take into account the potential correlation between mothers within one village and between children within one family.

Findings: More boys than girls showed conduct problems (3.6 vs. 3.0; $p=0.004$), peer problems (2.8 vs. 2.4, $p=0.015$) and hyperactivity (4.9 vs. 4.0, $p=0.0001$). Low educated Mothers reported about more emotional symptoms ($\bar{x} = 3.4$) of their children than those with a high educated ones ($\bar{x} = 2.4$). Significant correlation was found between traumatic life events (road, home and natural accidents, family violence or death in family) and high total difficulties Score.

Using the SDQ-scale, 30.6% of the Bedouin children fall in the abnormal range (score above 16 according to the British standard cut-point).

Interpretation: The higher difficulties scores of Bedouin children, comparing with children of other Arab and non-arab countries, can be explained by their very dire living conditions, widespread poverty and the consequent maternal distress. However, political and cultural factors should be considered; the tendency of minority groups to “dramatizing” their situations or different perceptions and interpretations of mental or emotional concepts and symptoms.

Word Count: 300

The Impact of State Repression on Intimate Partner Violence (IPV): Evidence from Palestine

Marwan Khawaja, United Nations - ESCWA

Background: The aim of this study is to assess the impact of state repression on intimate Partner violence (IPV), using recent data from the 2011 Palestinian domestic violence survey. Little is known about the direct impact of state repression on men's subsequent violent behavior within the family sphere. There are only a few studies documenting the association between state and IPV, but these are observational in nature and lack direct measures of repression against men. One study on Palestine hypothesized a direct causal link between political violence and IPV through stress (Clark et al., 2008). The availability of recent national level survey data on IPV and measure on detention and exposure to torture of men provides a unique opportunity to assess the causal link between the two. We plan to create a counterfactual (or psudo) experiment using a matching method, based on observational data on domestic violence to assess this causal link. Specifically we will use a propensity score matching and a fixed effects model to assess the impact of repression on IPV.

Methods: The study is based on data from a 2011 cross-sectional survey of a representative sample of married Palestinian women (n=4413). The outcome variable is women's exposure to physical violence during the past year. The 'treatment' effect is husband's detention prior to the last year. Propensity score matching (PSM) and a propensity-based weighted regression models will be used to assess the impact of prior detention on GBV. PSM is a valid alternative to a randomized experiment to correct for selection bias by creating treatment and control groups that are unaffected by observed confounders. Sensitivity analysis of possible unobserved bias will be undertaken.

Findings: The prevalence of physical GBV during the past year was 24%. About 13% (552) of women reported that their husbands were detained prior to the past 12 months. Preliminary results show that detention is significantly related to GBV.

Conclusions: To our knowledge, this is the first study to directly assess the impact of state repression on GBV. The results are important for the design of specific interventions that may mitigate the negative impact of detention on women's lives and family welfare.

Word Count: 357

The health of men in and out of prison, an entry point for the health of Palestinian men.

John Macdonald University of Western Sydney (Foundation Chair in Primary Health Care) and regular contributor to the Postgraduate program at the ICPH Birzeit University.

Abstract: Although there are no large studies of the health of Palestinians who have experienced incarceration in Israeli jails, this issue is clearly a major Public Health concern. This paper presents a global overview of the health of ex-prisoners, with an emphasis on their mental health as well as the impact of their re-entry into family and community life. It also draws on a small study done by the author on the experience of Aboriginal prisoners in Australia and extrapolates to the Palestinian situation.

The matter is acute in Palestine where incarceration is almost exclusively for political reasons. Political prisoners have particular mental health issues. Mental health issues during and after imprisonment are common and one of the compounding issues for Palestinian prisoners is that since they are incarcerated by an Occupying Power, they do not have access to the advocacy support prisoners have in some other countries. Family visits are often very difficult and sometimes non-existent. The impact on their families during their imprisonment and on their wives and children after the release of these traumatised people is of great concern and has to be addressed. All Palestinian men, from their youth till older age, are potentially at risk of arrest and imprisonment. The impact on male mental health is great.

There are organisations which support such men (it is mainly but not exclusively men who are incarcerated by the Israelis) but the issue needs to be addressed as an urgent community Public Health matter. Applied research leading to support for these men and their families can lead to a systematic study of male health in Palestine, a topic which calls for attention.

Word Count:274

Gender Paradoxes and Gender Gaps in Education, Work, and Wages: Palestinian Women in Lebanon

Sawsan Abdulrahim, PhD; Department of Health Promotion and Community Health, Faculty of Health Sciences, American University of Beirut.

Background: The gender gap in education is eroding in most Arab countries. Yet, Arab women continue to exhibit one of the lowest rates of economic participation worldwide. This has been labeled the gender education-work paradox. Further, when they work, Arab women earn lower wages compared to men at all educational levels. We explore the gender education-work paradox among Palestinian refugees in Lebanon and examine wage differences between Palestinian men and women at every educational level.

Methods: We utilized data from the most recent ILO Labor Force Survey of Palestinians in Lebanon (2012). The survey was implemented in all Palestinian refugee camps and gatherings across Lebanon, yielding a sample size of 2,600 households and 7,212 individuals. We analyzed the data using bivariate and multivariate methods to test gender differences in education, work, and wages.

Findings: Palestinian women show a generally better educational profile compared to Palestinian men. They however exhibit a very low rate of economic participation (15% compared 71% for men). Women's economic participation drops further with marriage. When they work, Palestinian women are advantaged with respect to job security but earn lower wages compared to men at every educational level. The gender gap in wages in fact increases with increasing education, exceeding 20% for those with a university degree.

Interpretation: The results confirm the persistence of the gender education-work paradox among Palestinians in Lebanon. Further, whereas Palestinian women who work earn higher wages with increasing education, they experience more gender discrimination. Palestinian women are doubly disadvantaged in Lebanon: discriminatory policies that negatively affect all Palestinian workers intersect with gendered social and cultural norms to exert a cumulative effect on their economic wellbeing. The solution is to push for policies that protect all working women (Lebanese and Palestinian) while advocating to dismantle discriminatory policies against Palestinian workers.

Word Count:297

Health Inequalities and social welfare through the lens of Senian capability approach: A structural equation model applied to Palestine.

Mohammad Abu-Zaineh Affiliate Professor, chair Inserm in Health Economics & Policy, Aix-Marseille University, INSERM, Research Unit, Maame Esi Woode, PhD. Researcher, Aix-Marseille University (Aix-Marseille School of Economics – GREQAM UMR CNRS 7316, Marseille, France. Jean-Paul Moatti, Professor of Health Economics, Aix-Marseille University, INSERM-IRD-SESSTIM «Economics and Social Sciences Applied to Health & Analysis of Medical Information» Research Unit U912, Marseille, France.

Background: Recent decades have witnessed a rising interest in the capability framework – put forth by the Nobel Laureate Amartya Sen – as an alternative approach to the measurement of individual’s well-being. Accordingly, the capability to leading a healthy life is deemed crucial. The literature on capability approach has, however, remained largely theoretical. This paper seeks to present an empirical application of a recent methodology and in doing so offers practical insights on how capability can be measured over four basic attributes (health, knowledge, social cohesion and living conditions) using the particular context of the occupied Palestinian territories.

Methods: Capability is conceptualised as a latent variable and measured using a full generalized structural equation modelling technique. The GSEM enables to account for the unobservable and multidimensional nature characterizing the concept of capability. Estimation results are, then, used to derive capability indices (CI) at the individual level. The methodology is applied to data taken from the Palestinian Family Survey-2010.

Findings: While highlighting the major role played by the supply-side factors such as the availability of primary and secondary-care, our results show high interdependence between individual’s health capabilities and the other capabilities related to knowledge and social cohesion. Our results also confirm the importance of some (exogenous) demand-side factors in the conversion of capabilities into achievements; mainly male individuals living in urban areas appear to be more capable to convert their basic capabilities into achievements.

Interpretations: An important empirical conclusion of our investigation is that when the capability in one attribute (health) is highly mutually dependent on capabilities in other attributes, the CI tends to reflect to a large extent inequality in these attributes. This has important policy implications since it indicates that it is not only health inequalities per se that matter, but also the associations between health and other dimensions of well-being.

Word Count:300

Long-term Consequences of Political Imprisonment for Men in the oPt.

Clea McNeely DrPH Department of Public Health University of Tennessee, Knoxville.

Background: The long-term effects of political imprisonment are not well documented. This paper explores the association of lifetime political imprisonment with current holistic functioning among Palestinian men ages 30-40.

Methods: A household survey including an event history calendar was conducted of a representative sample of 1800 Palestinians ages 30-40. Data were collected by the Palestinian Center for Survey and Policy Research. The 26% of men (n=233) who had ever been imprisoned for political reasons was analyzed. Numbers of imprisonments were calculated for 4 periods: 1st intifada (1987-1993; range 0-7), Oslo (1994-1999; range 0-7), 2nd intifada (2000-2005; range 0-6) and post 2nd intifada (2006-2011; range 0-5). Measures of current emotional, physical, economic, political and family functioning were regressed on the four imprisonment variables plus demographic covariates (region, refugee status, family size and age).

Findings: In multivariate analyses, number of imprisonments during *2006-2011* was associated with less freedom of expression (b=-.28; p=.015), fewer personal freedoms (b=.22; p=.009), poorer physical health (b=-.21, p=.018), functional health limitations (b=.30, p=.011) and greater feelings of being broken or destroyed (b=.24, p=.008). Imprisonment in the earlier periods had fewer but more complex associations with current functioning. Number of imprisonments in *1987-1993* was associated with greater current trauma-related stress (b=.10, p=.022), but also with *less* human insecurity/fear (b=-.09, p=.04). Number of imprisonments during *2000-2005* was associated with *fewer* current functional health limitations (b=-.19, p=.019).

Interpretation: Political imprisonment differs in its effects on current functioning depending on the historical period of imprisonment. Recent imprisonment (2006-2011) was associated most pervasively and negatively with current functioning. Number of imprisonments during the earlier periods had mixed associations with current functioning, including being associated with some indicators of positive functioning. The findings reveal the value of assessing the *timing* of imprisonment experience as opposed to simply accumulating it over the life course.

Word Count:299

The Impact of the Lebanese Nationality Law on the Experiences of Lebanese Women Married to Palestinian Men.

Nadine Abdallah Faculty of Health Sciences, American University of Beirut, Beirut, Lebanon, Rouba El Hawarneh Faculty of Health Sciences, Sawsan Abdulrahim, American University of Beirut, Beirut, Lebanon

Background: Citizenship is a right to all individuals. It provides identity and ensures rights to its holders. In Lebanon, the issue of citizenship and civil rights of Palestinian refugees is a controversial topic that has long been met with resistance. The current Lebanese Nationality Law enforces the concept of gender exclusion, where Lebanese women are denied the right to pass their citizenship to their husbands and children. This study highlights the impacts of the Lebanese Nationality Law on the experiences of Lebanese women married to Palestinian men, particularly in accessing health care for their children.

Methods: After obtaining IRB approval, we gathered our data qualitatively through in-depth interviews with 12 women. We analyzed thematically by identifying open codes, then allocating specific themes. Our work was always steered by ethical considerations.

Findings: Compared to non-Palestinian foreigners, the impacts of the Lebanese Nationality Law are exacerbated in the case of a Lebanese woman married to a Palestinian man, due to the institutionalized discrimination against the Palestinian refugee population. These women suffer discrimination on various levels, losing their sense of belonging and identity. They become foreigners fighting for their own rights as well as the rights of their Palestinian husbands and children, whose restricted access to education and employment creates a suffocating economic impact. Often fulfilling a dual-gender role, these women persevere and fight for their families' rights. Their children's and husbands' healthcare is restricted to what is affordable, often relying on UNRWA's services in Lebanon, which are insufficient for their needs.

Interpretations: Granting Lebanese women's nuclear families the Lebanese citizenship reduces the impacts of this law, leading to a healthier society. We need to work hand in hand to advocate for and voice women's concerns for them to secure their rights, to help them, their husbands and children live a better life.

Word Count: 300

Conflict-related stressful situations and coping among Palestinian Students.

Mikko Häkkinen MSc, PhD-student, University of Eastern Finland, School of Medicine, Public Health and Clinical Nutrition Finland, Dr Jussi Kauhanen, MD, PhD, MPH, Professor of Public Health, University of Eastern Finland, School of Medicine, Public Health and Clinical Nutrition Finland, Dr Tuula Vaskilampi, PhD, Professor of Health Sociology (emeritas), University of Eastern Finland, School of Medicine, Public Health and Clinical Nutrition, Dr Jari Kupiainen, PhD, Adjunct Professor of Anthropology, University of Eastern Finland, Finland.

Background: Everyday life of students at the tertiary level education in the occupied Palestinian territory is severely influenced by Israeli military occupation. These conditions have exposed students to a range of distressing situations. This study focuses on conflict-related stressful situations and coping strategies that students use after distressing incidents.

Methods: Data were collected by using Ways of Coping Questionnaire developed by Folkman and Lazarus (1985). Data collection was done in 2012 from students (N=198) of three different institutes of higher education in the occupied Palestinian territory, West Bank. Statistical analyses were performed using the SPSS version 19.0 software.

Findings: Of all described stressful situations, 34% were incidents on checkpoints. A total of 17% of descriptions addressed a situation where the respondent had witnessed someone to get arrested, injured, or exposed to maltreatment. Other repeatedly mentioned situations included exposure to tear gas, sound bombs or rubber bullets in other settings than checkpoint or demonstration (16%), as well as restriction of freedom of movement (9%).

Relative scores, expressed as percentages, were calculated for each coping subscale, each of which describe a different type of coping style. Positive reappraisal, which accounted for 15% of the coping strategies, was the most often used, followed by self-control (13%), and planful problem solving (13%). Confrontational coping was the least used strategy (11%).

When single types of coping activities were examined in more detail, praying was the most widely, and avoidance of being with people the least used activity.

Interpretation: Stressful situations that the Palestinian students reported had most often occurred on a checkpoint. Events that were frequently mentioned included exposure to tear gas, sound bombs or rubber bullets. They also had commonly witnessed something bad happening to somebody else. Positive reappraisal was the most frequently reported coping strategy used by the students. Other commonly used strategies included self-control, and planful problem solving. Of individual activities, praying was the most widely used.

Word Count: 315

The determinants of exposure to different types of violence among undergraduate students in the occupied Palestinian territory (oPt)

Ronal H. El-Sughayyar Department of Biodiversity and Food Security, The Applied Research Institute - Jerusalem Society (ARIJ), Bethlehem, Palestine/MPH, Ni'meh A. Al-Shami MPH, Birzeit University, Najla S. khasseeb Ministry of Education, MPH, Birzeit University, Niveen M. Ghaben MPH, Birzeit University, Rita Giacaman Professor and supervisor, Institute of Community and Public Health, Birzeit University.

Background: The oPt has suffered from Israeli Occupation for many decades, and this has a negative impact on the daily lives of the population. This study assesses the severity of the violent practices that the Palestinian students at Birzeit University and Bethlehem University face.

Methods: A cross sectional study performed with 572 undergraduate students. Researchers developed a questionnaire after focus group discussion and pilot. The questionnaires were completed through face to face interviews with students after taking approval. Demographic data was collected and questions regarding exposure to moderate violence¹ (including exposure to tear gas, sound bombs, being detained, arrested, beaten, experienced verbal violence, and present at places where rubber-bullets or buckshot were shot),and extreme violence² (including confiscation of land or any of the student's possessions.) were asked. The students were asked if any of their relatives had been arrested or martyred. Moderate and extreme violence scales were constructed from questions identifying exposure to any of these violent practices with good internal consistency (Alpha= 0.87,0.60) respectively. Scales were re-coded into no exposure and exposure to at least one of these violent practices.

Chi-square testing was performed to check significant associations including students' I.D., university, sex, region, wealth status and being refugees. Binary logistic regression was performed to identify confounders.

Findings: 572 students were interviewed, 284 at BZU ,288 at BU, with 269 holding Jerusalem I.D. and 300 holding WB I.D. Logistic regression revealed that WB I.D. holders were less likely to be exposed to moderate violence³(OR=0.461, 95%CI=0.313-0.678), and females were less likely than males to be exposed to moderate violence⁴(OR=0.212, 95%CI=0.146-0.309). BU students were less likely to be exposed to moderate⁵(OR=0.52, 95%CI=0.357-0.756) and extreme⁶(OR=0.611, 95%CI=0.414-0.90) violence. Citizens compared to refugees were less likely to be exposed to moderate⁷(OR=0.341, 95%CI=0.202-0.573) and extreme⁸(OR=0.468, 95%CI=0.291-0.753) violence, and BU students⁹(OR=1.487, CI=1.039-2.129) and citizens¹⁰(OR=1.65, 95%CI=1.006-2.705) were less likely to have any arrested relatives.

Interpretation: Findings indicate that students holding Jerusalem I.D. who are refugees at BZU require more community support. Integration in capacity building programs and recreational activities are needed to improve the students' ability.

Word Count:340

Social and Political Determinants of Health Equity of Palestinians in Jerusalem: a qualitative assessment.

Anita Vitullo, MSc Public Health student, London School of Hygiene and Tropical Medicine

Background: Social determinants of health are shaped by local, national and international policy. Within Israel, broad health indicators, e.g. life expectancy, show persistent differences over decades between Jews and Palestinians. Research on these gaps has focused on lifestyle, ethnicity, socio-cultural characteristics and health care, with policy recommendations centering on individual behaviour change. Social and political determinants are particularly relevant for Palestinians in Jerusalem who have been under occupation since 1967 with 'permanent residency' status. The study aimed to examine these determinants on health equity.

Methods: Online literature was reviewed to critically assess current research into health disparities in Israel and in Jerusalem, using 10 terms, limited to English published after 2000. 15 key informants in health policy from 3 stakeholder groups were interviewed using a semi-structured questionnaire; data were analysed using Rifkin's CHOICE framework linking empowerment and health equity.

Results: Research methodologies demonstrated limited Palestinian involvement, unsuitable data sets, inappropriate survey tools, and assumed difference based on culture, ethnicity, or gender. Well-documented social and political restrictions in Jerusalem were absent from health research. Few health studies examined Jerusalem Palestinians as a distinct population group.

Interview information regarding Palestinian experience in Jerusalem offered insight into how specific social and political conditions impact health, equity and human rights. Narratives transcended socio-political identities, and revealed differences in ideological/value systems. Informants recognized that Palestinians have poorer social determinants but had different perspectives about the 'causes of the causes' of health inequalities. Information reinforced evidence in literature that structural violence, cultural subordination and hostile state values adversely affect minority health status.

Discussion: Health equity is dependent on wider political and social equity. Palestinians, especially those living under occupation in East Jerusalem, suffer from exclusionary Israeli policies that inequitably distribute social determinants and create structural barriers to equity whereby Palestinians are restricted in their free choice, affecting health.

Word Count: 302

Sense of coherence in Palestinian helpers operating in war-like conditions: a mediation study.

Guido Veronese, Ph.D. Fellow Researcher in Clinical Psychology, Family Psychotherapist and Trauma intervention specialist, Dpt. Of Human Sciences "R. Massa", University of Milano-Bicocca, Alessandro Pepe, University of Milano-Bicocca.

Background: Palestinian helpers are commonly recognized as being at risk of developing trauma. Research has examined the role of Sense of Coherence (SOC) as a determinant/component of psychological distress in emergency workers. In this study, we expected SOC to function as a determinant of the interaction between individual helpers' primary responses to the traumatic environment (assessed via intrusion and avoidance measures) and the secondary effects suffered in terms of general psychological distress as reflected in levels of anxiety, social dysfunction and loss of confidence. Specifically, three hypotheses were tested: that SOC would mediate the relationship between impact of traumatic events and anxiety, social dysfunction and loss of confidence, respectively.

Methods: Participants (N = 218) were recruited at public hospitals in three different areas of the oPt: Tulkarm, Gaza and Jabalia (122 males; 55.9 %, and 96 females; 44.1 %). Mean age: 30.37 years (SD = 8.68, min-max 18-59). The General Health Questionnaire, SOC scale and Impact of Event Scale were administered. Mediation analysis was conducted to assess whether and to what extent SOC influenced the effects of trauma among professional helpers.

Results: Sense of coherence was found to be a determinant of the relationship between impact of traumatic events and anxiety ($F_{4,196}=5.44$, $p < .001$), social dysfunction ($F_{5,192}=15.67$, $p < .001$), and loss of confidence ($F_{5,192}=15.67$, $p < .001$), respectively. Mediation analysis confirmed that SOC partially moderated the impact of trauma on both anxiety and social dysfunction whereas it fully mediated the relationship between trauma and loss of confidence.

Interpretation: Our findings confirmed that SOC helps individuals to control and master traumatic experiences, reduce anxiety and sense of bereavement, and maintain a functioning system of relationships in the wake of trauma. Thus, SOC involves protective abilities that may be assessed and targeted for training or clinical treatment in this specific group of professionals.

Word Count:303

Perceptions of violence among youth in the West Bank: A qualitative investigation."

Mohammed AM Shaheen, Associate Professor-AIQuds University-School of public health-West Bank-Palestine, Peter Glick, Salwa Masaad, Umaiye Khammash, Sebastian Linnemayr; Rita Karam, Ryan Brown.

Background Violence among Palestinian youth in the literature has been connected to the political violence resulted from the ongoing Israeli-Palestinian conflict. The results of this qualitative study provide primary data on the different types of violence, and on factors contributing to violence affecting youth in the West Bank and East Jerusalem.

Methods Ten focus groups and 17 in-depth interviews were conducted among youth age 16-24, total of 83 participants (42 males and 41 females) with a mean age of 20. Purposive sampling was used to include male and female youth from urban, rural, and refugee. Qualitative analysis was conducted using NVIVO Version 9.

Findings Interviewed youth indicated a high prevalence of violence inflicted upon youth and children as well as by youth. Violence includes physical and emotional forms as well as sexual related violence. The main 4 mentioned types of violence are domestic violence (violence against children and parents; mostly physical), gender- based violence, Israeli occupation violence, and sexual violence. Most girls mentioned sexual harassment in streets, in taxis, at work, at schools and universities. Rape and incest were perceived as less common than other forms of violence but more common in camps and villages. Victims of violence are mostly children and women coming from conservative communities. Main factors associated with violence as perceived by youth include; Israeli occupation, cultural norms that discriminate against females, unemployment and poverty and absence of law and order.

Interpretation Violence among youth seems to be manifestations of complex number of political, economic, cultural and gender factors, and is far from limited to violence directly associated with Israeli occupation. The extent and diversity of violence require further study to help develop a holistic programmatic framework at the national level that addresses the multiple forms of violence while paying attention to the needs of the most affected youth.

Word Count: 302

The Prevalence of Distress and Association Factors among Palestinian University Students living in the West Bank including East Jerusalem.

Hiba Darwish Ministry of Health, MPH , Birzeit University, Ramallah, oPt. Haya Shojaiab Ministry of Health, MPH , Birzeit University, Ramallah, oPt, Itaf Hassane Ministry of Health, MPH , Birzeit University, Ramallah, oPt, Safa Mansour Ministry of Health, MPH , Birzeit University, Ramallah, oPt, Suzan Al Metwallie Institute of Community and Public Health, Birzeit University, Ramallah, oPt, Prof Rita Giacaman Institute of Community and Public Health, Supervisor, Birzeit University, Ramallah, oPt.

Background: Distress is a reaction in response to life changes resulting in physical and emotional alterations, including frustration, nervousness, or anger. This study examines factors associated with distress levels among Palestinian university students.

Methods: Cross sectional study measuring distress among Birzeit and Bethlehem university students. An equal number of students from the two universities were interviewed randomly, totaling 572 students. Twelve questions were asked to assess distress during the two weeks before the interview with Chronbach's alpha 0.888. The relationship between socio-demographics variables and distress was assessed with bivariate analysis in the software SPSS version 20, and regression analysis of the significant associations.

Findings: The sample included an equal proportion of boys and girls. 47% reported moderate to high distress levels. 65% were satisfied with their health. 50.3% reported desiring to outmigrate. 54% reported fathers with university level education, and 68% reported that their mothers were not working outside the home. Regression results revealed that students reporting satisfaction with their health were less likely to report high distress compared to those dissatisfied with their health (OR 0.37, 95% CI 0.24-0.57). Students who desired to migrate were more likely to report high distress (OR 1.55, 95% CI 1.02-2.34). Students whose fathers had university level education were less likely to report distress compared to students with lower education fathers (OR 0.40, 95% CI 0.21-0.76). Students with non-working mothers were more likely to report high distress level compared to students with employed mothers (OR 1.80, 95% CI 1.08-3.00).

Interpretation: High distress among Palestinian university students is negatively associated with health satisfaction and positively associated with desire to out-migrate reports. Students with university educated fathers and working mothers reported less distress than the others. While more research needs to be completed, this pilot study indicates that family socio-economic status can influence and ameliorate distress levels among young people.

Word Count: 299

Palestinian Youth Risky Transition into Adulthood, Are Area C residents Smoking Status differing? A Comparative, Cross Sectional study.

Hendia Amir Radwan Abu Nabaa Head of Family Planning department/Salfit district, Palestinian Ministry of Health/ MPH, Birzeit University, Abu- Rmeileh, Niveen., PhD, MPH, Birzeit University.

Background: Erikson adulthood transitional theories described human development complexity; it incorporates maturity, independence and freedom of choices. Globally those choices proved to cause five risky behaviors; smoking is one of them that seriously threat individual's efficiency and worldwide health. Our study investigates smoking among youth aged 14-29 years living in West Bank and Gaza Strip (PA) in 2010 compared to those resides in area C.

Methods: This study based on the Palestinian Family health survey (PAPFAM) conducted by the Palestinian Center Bureau of Statistics (PCBS) in 2010. 25484 youth were included with the receipt of Smoking as dependent variable, Life courses events i.e. school enrollment, employment, marital status, employed & married and (waiting) as independent variable, and other possible associated factors using SPSS software version 17.

Findings: Of interest 6.7% youth lives in area C compared to 93.3% PA. 14.8% are smokers of area C while 13.1% in PA. Logistic regression revealed that area C residents are more likely to smoke compared to PA. Moreover youth reported married only, worker only, and Waiting are all more likely to smoke. Youth aged above 17 are more likely smoke compared to <17. West Bank youth are more likely to smoke compared to Gaza. Camp youth are more likely to smoke compared to Urban. Males are more likely to smoke than females'.

Interpretation: Area C youth are trapped between the rigidity of life conditions and future aspiration; they face emergent difficulties through life course especially in marriage, work, which led them to high (waiting) list, coupled with smoking.

Word Count: 254

Bullying among Palestine Refugee Students in Lebanon

Zahraa Yehya Beydoun, Research Assistant at the American University of Beirut

Background: Bullying has been identified as an international public health problem among youth having its prevalence between 5% - 63% worldwide. Despite its high prevalence among Palestinian refugee students which reached 52.5% in The United Nations Relief and Work Agency (UNRWA) schools, no attention is given it. Being responsible of Palestinian Refugee's health in Lebanon, UNRWA realized the importance of planning an anti-bullying intervention to reduce bullying prevalence at UNRWA schools. The objective of this study is to study the determinants behind bullying among this group and to be able to intervene.

Methods: Qualitative methods for data collection were used through conducting three focus groups at Haifa School among students of grade 7, 8 and 9. Findings were analyzed using thematic analysis.

Findings and Interpretations: Findings revealed that both individual and environmental factors were shown to be determinants of bullying among participants. Student's definition of bullying was totally different from what the literature states, for them the act of bullying is defined as physical abuse. Moreover, bullying was not considered as a harmful behavior; instead it is a way of having fun and seeking a better self image among their peers. These mistaken perceptions were all the result of camp's environment. The fact that these student's are exposed to violent acts like hitting and using guns in the camp, made these students perceive bullying as something acceptable. Some students stated that they were raised on the idea that they have to hold a gun or a knife in order to fight and protect themselves. This extreme use of violence made participants perceive kicking or hitting for the sake of fun as being acceptable as long as there is no injury. These results highlight the importance of a whole school program tackling all these determinants to reduce the bullying behavior.

Word Count: 299

Child Development in Palestine.

Samia Halileh Phd, Birzeit University, West Bank Palestine, Marwan Awartani

Background: Child Development (CD) is a measure of child abilities that is achieved by most children at a certain age. Interpretation of CD examination relies on comparison of the child's abilities with other children of the same age and culture.

Objective: The objectives of this research is to standardise CD for Palestinian children from 0-3 years and to compare with other cultures, based on four developmental domains of Social skills (SS), Gross motor (GM) , Vision & Fine motor (V&FM) and Hearing & Speech (H&S) using different International Tools.

Method: International developmental tools were compiled, piloted on a convenient sample of Palestinian children and adjusted. The new tool was then applied to randomly selected sample of children from Mother and Child Health Clinics where all of the children from 0-3 years have their vaccination. The sample was divided into nine age groups. The result was calculated at the age at which 25th, 50th, 75th and 90th percentiles of the children had achieved the skill.

Results: The sample size was 2053 with 1227 from WB and 826 from GS. High development scores were observed in female vs. male children, children where parents are not consanguineous; children from the GS vs. WB; children living in Refugee Camps (RC) vs. rural areas, which persisted after controlling for region; children whose mother was employed or with an education of nine years and above.

The highest percentage of children who achieved 90 percentiles was for Social skills, followed by GM, V&FM and H&S development at 73%, 60%, 55% and 45% respectively. Possible explanation were culturally determined as in not initiating young children to count early, or to perform self help such as dressing and undressing.

Word Count: 278

Infections in Pediatric Intensive care Unit (PICU) in the occupied Palestinian Territory.

Ibtisam M. Ghayeb, Makassed hospital East Jerusalem Palestine.

Back ground: Infection are one of the leading causes of hospitalization and death it have a critical problem affecting the quality of health care a principal source of adverse health care outcomes. The objective of this study to identify patient with positive culture referred to our unit.

Methods: The study was under taken at the pediatric intensive care unit at Makassed hospital; East Jerusalem occupied Palestinian territory over 1 year between October 2012 and September 2013. Prospective, descriptive study using statistic (percentage, mean and frequency). Infection rate was calculated in percentage (number of Infected per 100 clients).Using the CDC and prevention definitions to diagnose nosocomial infections and the NISS methodology. Total of 120 children (72 boys and 48 girls)of 316 admissions met the inclusion criteria for the study to have at least one positive culture , all positive culture were identified , using clients records , lab investigations , identify high risk patients and analyses of positive cultures.

Findings: the rate of infection was (37.97%) per 100 admissions to PICU. 103(85.8%) patient referred with positive culture. Rectal infections (79.1%) are the most common infections. Klebsiella 58(48.3%) are the most frequently isolated microorganism, 17(14%) matched the diagnosis of (NIS),53 (44%) were found having more than two organism , all of them had I.V cath at least , length of stay (>7 days) , respiratory failure is a primary cause of admission. Mortality rates 12(10%).

Interpretation: Klebsiella infections are noscomial, preventing infections is possible; other health care setting must adopt prevention practices.

Word Count: 250

Understanding the Prevention of Unintentional Injuries at Home among Children Under Five Years from Ramallah District: Multiple-Case Studies.

Intima Alrimawi PhD Student in Nursing Studies Child and Public Health Research Group School of Health Sciences University of Nottingham, Birzeit University, and member of the nursing union in Palestine.

Background: Unintentional child injuries considered a global public health problem. It is a main cause of mortality, morbidity, and disability among children. These injuries form a major burden on healthcare systems, and a particularly in low income countries.

Aim: Explore parents, health professionals, and key people perceptions and practices regarding the prevention of home-related unintentional injuries among children aged under-five years, and the potential factors that might influence such practice in Ramallah district.

Methods: Case study approach was followed, whereby four parents were interviewed from each of the three different settings within Ramallah district (camp, rural, and urban), and their houses were observed. Beside that twenty four health professionals who work with children in a primary health care setting, and nine key people who work in senior level managers within organizations that are concerned with children were interviewed. Those served as the contextual data for the parental case study. The derived data were analyzed using the inductive thematic analysis approach.

Finding: Parents have tendency to work on preventing the home accidents. However many factors affected their practice mainly lack of awareness and the low financial statuses. Additionally, most of the key people and health professional were positive toward preventing the home injury, but the workload and lack of training were the main barriers to their practice in this area. Environmental factors influenced injury prevention, including: the physical environment, socio-cultural environment, as well as the governmental policy and system.

Interpretation: The causes of the home child injuries are embedded within the families' culture, social, and economic status, and is influenced by the government policies and the surrounding environment such as the physical environment of the house, and any attempt to prevent the home accidents in Ramallah district by the government without acknowledging these factors is less likely to be successful.

Word Count: 299

Questions of sensitivity in a screening tool for child abuse and neglect.

Suzan Mitwalli MPH Institute of Community and Public Health, Birzeit University, Amro, Z. (MSc)
Hamayel, L. (BSc) Hammoudeh, D. (MSc) Imseeh, S. (MPH) Rabaia, Y. (MPH) Halileh, S. (FRCHCH)
MPH Institute of Community and Public Health, Birzeit University.

Background: While much research has been conducted on fertility and childbearing in the Palestinian context, research on the practice of child-raising is limited. In preparation for a study on child discipline and abuse, we investigated the cultural appropriateness of two International Child Abuse Screening Tools, one for a parents or caretakers (ICAST-P), the other for young people aged 18-24 (ICAST-R) developed by the International Society for Prevention of Child Abuse and Neglect (ISPCAN).

Methods: The research team conducted three sets of in-depth interviews: 10 with mothers, 10 with young men and 10 with young women. Besides general questions in relation to child discipline, the interviewers asked for feedback in relation to clarity, acceptability and relevance of the ICAST survey questions.

Findings: The majority of interviewees perceived most ICAST questions as acceptable and relevant. However, their feedback indicated severe problems regarding the questions related to sexual abuse. Young women suggested that such questions could re-open wounds in a context where support services are minimal. Many interviewees questioned whether respondents would answer these questions truthfully, and some warned that both interviewees and interviewers could face social repercussions. Young people also raised child abuse and neglect issues not addressed by the ICAST such as discrimination among siblings by parents. Additionally, they questioned the extent to which illiterate people and persons with mental disabilities could be covered by the survey.

Interpretation: Given the lack of adequate psychological follow-up services to sexual abuse victims, the findings indicate that the survey in its original version could cause harm. Combined with the doubtful sensitivity of the instrument as a screening tool, this study highlights the importance of prior validation of research instruments when introduced in a new cultural setting. In the Palestinian context, alternative research tools must be considered to study issues of sexual abuse.

Word Count:298

Prevalence and Associated factors of Postpartum Depression among Palestinian Mothers

Khubaib Ayoub MD Department of Medicine, An-Najah National University Hospital, Nablus, Palestine,

Background: Postpartum Depression (PPD) is a challenging condition and a major public health problem because of its great effect on the mother and her child in a critical period of child development. Nevertheless, it has received less attention in the Palestinian health research and Palestinian primary care and MCH clinics. The aim of this study is to determine the prevalence and associated factors of PPD among women aged 18-45 years in Nablus district.

Methods: This is a cross-sectional study in which mothers aged 18-45 years from Nablus district were interviewed at 7-12 weeks after birth in 12 of the Ministry of Health (MOH) and UNRWA primary care and Maternal and Child Health (MCH) clinics in the period from 28/5-17/7/2013. We used a specially constructed interview consisting of Arabic version of Edinburgh Postnatal Depression Scale (EPDS) and other questions of PPD related risk factors. The EPDS internal consistency was high (Cronbach's $\alpha = 0.79$) and we adopted the cut off score of ≥ 10 to define depression.

Findings: Of the 246 interviews conducted, 235 were valid for analysis. The mean age of participants was 26.13 [95% CI: 25.45-26.8]; the mean years of education were 12.59 [95% CI: 12.2-12.98]; and the mean number of births was 2.59 [95% CI: 2.38-2.79]. 49.8% of mothers live in Nablus city whilst 29.8% and 20.4% live in villages and in refugee camps respectively. Forty mothers (17%) scored ≥ 10 and considered depressed whilst 21 mothers (8.9%) scored ≥ 13 and considered to have severe depression.

Univariate analysis showed that depression during pregnancy, positive personal mental history, verbal and physical abuse, 2 or more stressful events during pregnancy, marital separation or divorce, poor relationships with the husband and the family, premature newborn are strongly associated with PPD. No significant relationships were observed with age, education, income or baby's gender.

Interpretation: Prevalence of PPD is high among Palestinian mothers and is mainly associated with psychosocial stressors during pregnancy. We highly recommend the integration of PPD screening into the antenatal and postnatal healthcare services and to give more time to mothers counselling in addition to the medical services offered.

Word Count: 350

Effectiveness of Timed and Targeted Counseling Intervention on Infant and Young Child Feeding (IYCF) and Caring Practices among Mothers in Villages in the Bethlehem Area

Hana Saleem Al -Rabadi World Vision International - Health and Nutrition Technical specialist, Nuha EL Sharif, PhD, Al Quds University.

Background: Limited access to health facilities in some Palestinian localities is believed to contribute to the lack of knowledge and poor practices among mothers regarding IYCF and caring practices.

The objective of this study was to evaluate the effectiveness of community approach Timed, Targeted Counseling (TTC) in improving mothers' knowledge and practices regarding IYCF and caring practices in four remote villages surrounding Bethlehem in the West Bank.

Method: An intervention study was carried out in the four villages. All mothers (n=118) of infants born during March, April 2011 were identified by Community Health Workers (CHWs) and randomly assigned to intervention (n=66) and comparison (n=52) groups. The CHWs targeted the intervention group with key messages and support for positive IYCF and caring practices during organized home visits throughout 12 month. The comparison group were not exposed to any messages; they were visited only for data collection. Baseline and end-line data were collected from both groups through household interviews.

Findings : IYCF and caring practices were significantly ($p < 0.001$) improved among mothers in the intervention group; exclusive breastfeeding until 6 months increased from 27.3% to 69.7%, duration of breastfeeding above 1 year increased from 56.1% to 83.3%, timely introduction of the complementary meals increased from 38.5% to 66.7%, rubbing salt on the infant's skin and umbilical cord decreased from 54.5% to 3%, recognizing danger signs increased from 15.2% to 48.5% and bathing newborns within 24 hours after birth decreased from 68.2% to 31.8%. No significant changes were seen among the comparison group.

During the study period there were fewer reported disease episodes (diarrhea, respiratory illness, fever, ear infections) in the intervention versus comparison group.

Interpretation: The TTC approach proved to be very effective. Due to context similarities in most Palestinian localities scale up for TTC is recommended to reach out to other areas.

Word Count: 300

Observational study of metal contamination in newborns with congenital birth defects and preterm, born at Al Shifa Hospital, Gaza, Palestine in 2011

Paola Manduca, University of Genoa, Genetics, Genova, Italy, PhD, Prof Genetics; PERNA; Awny Naim, Engineer, General Director; Gaza City, Palestine. Simona Signoriello, Phd, Medical Statistics University of Naples, Napoli, Italy.

Background: During Cast-lead weaponry delivered in Gaza teratogen/toxicants metals. To detect if two years later, there is contamination in utero by metals known war-remnants, and establish eventual association with phenotype, we analyzed hair of newborns with birth defects (BD) and healthy babies (N), delivered in 2011 at Al Shifa Hospital, Gaza city, Palestine.

Method. Hair collected at birth, from randomly chosen BD (=48,) and N (=12) were analyzed by DR-ICP/MS, expressed in ppb (median values and inter-quartiles ranges). Statistic: Wilcoxon-Mann-Whitney (R software, version 2.15.3).

Findings: We show for the first time specific association of high teratogen/toxicant load with a phenotype at birth, without confounding from external exposures and bypassing unknowns of differential metal's passage from mother to fetus. Load of mercury (Hg 0.93 (0.02-0.25)), selenium (Se 0.32 (0.22-0.47)) and tin (Sn 0.23 (0.08-0.54)), in hair of BD babies, were significantly higher than in normal babies with no parental exposure to attacks (Hg 0.00 (0.00-0.02) $p=0.003$), selenium (Se 0.13 (0.09-0.24) $p=0.004$) and tin (Sn 0.04 (0.02-0.09) $p=0.002$). Parents of BD documented direct exposure to White Phosphorus and bombing during Cast-lead. Parents of N declared unexposed directly to weaponry.

Interpretation: Data imply specific metals in induction of specific damages during fetal growth: high load, and co-presence, of Hg and Se associated with birth defects. Hg and Se are synergizing, teratogens, Sn a fetal and mother toxicant. In utero contamination could derive from mother continuing exposure or release of metals previously accumulated. The metals above are documented components of weapons used during Cast-lead. Unusually high presence in utero in 2011, in association to specific reproductive damages and parental exposure to attacks two years earlier, suggests weapons may be the metal's source, and child phenotypes reflect long term effects of war remnants, although we cannot prove directly that war remnants are the only source of these metals in the environment.

Word count:307

Infant mortality among Palestine refugees in Gaza.

Ali Khader Family Health Team Coordinator, UNRWA HQ, Amman, Jordan, Dr. Mariam Abdelqader Field Family Health Officer UNRWA-Gaza, Dr. Maartje Maria Van den Berg Pediatrician UNRWA HQ Amman, Jordan, Dr. Majed Hababeh Chief health Protection & Promotion, UNRWA HQ, Amman, Jordan, Wafaa Zeidan Senior Statistician, UNRWA HQ, Amman, Jordan, Dr. Irshad Shaikh Health Policy & Planning Officer, UNRWA HQ, Amman, Jordan, Dr. Akihiro Seita Director of Health, UNRWA HQ, Amman, Jordan

Background Infant mortality rate (IMR) among Palestine refugees in Gaza has shown constant decline from 180 in the 1960s to 22.6 in 2008. The study aimed to estimate IMR as a periodic monitoring after 2008, and investigate the causes of infant deaths. Particular interest was made to possible impact of the tightened blockade, imposed in June 2007 that has devastated lives of people in Gaza and resulted in limited access to high quality health care.

Methods From August to November 2013 an infant mortality survey was conducted as a follow-up to the previous surveys, by using the same preceding birth technique. This technique is an indirect method for estimating infant mortality, which is recommended when household surveys are difficult and when the coverage of newborn registration/immunization services is high. Mothers who attended a clinic to register their newborn infants were asked if their preceding child was alive. From all UNRWA clinics in Gaza, a total sample of 3140 mothers (para ≥ 2) was enrolled.

Results Infant mortality rate (IMR) was 22.9 per 1000 live births. There was no significant increase when compared to previous survey (22.6) in 2008. Of all death infants, 77.6% died in the first month of life, 50% were born premature (<37 weeks) and 10% died outside hospitals. The main causes of death were congenital malformations (31%), complications of prematurity (27.5%), respiratory infections (14%) and septicemia and meningitis (9%). The mean birth interval was 27.8 months for the deaths compared to 33.4 months for the survivals. Consanguinity seems to be significantly higher with (50.7%) among deaths versus (30.3%) among alive.

Conclusion IMR did not show any decline in Gaza from 2008 to 2013. Detailed analysis on the causes of non-decline is needed. However, the negative impact of lack of economic growth, health inequality, and limited access to high standard care are of important concern.

Word Count: 301

Neonatal Mortality Trends, Al-Nasser Pediatric Hospital, Gaza-Palestine.

Dr Nabil M.D. Al Barqouni General Director of NPH , Associate professor in IUG Medical College Gaza; Dr Shereen N Abed, Consultant and head of NICU OF NPH , Lecturer in IUG Medical College Gaza.

Background: Neonatal mortality accounting for nearly 60% of infant mortality, with around 4 million deaths occur worldwide each year. Neonatal mortality rates have declined slowly in developing countries.

The aim of the study is to measure the neonatal mortality rate, the pattern and relative frequencies of various causes of neonatal mortality among neonates who were admitted to the neonatal intensive care unit NICU in Al Nasser Pediatric Hospital over a period of two years.

Methods: This is a retrospective, analytic and descriptive cohort study where two years data (January 2011-December 2012) of all neonatal admissions and deaths in NICU in Al Nasser Pediatric Hospital were collected from the medical records and neonatal database. Neonatal mortality and causes of death were analyzed. The result of neonatal mortality rates in 2011 and 2012 were compared.

Findings: The total number of neonatal admission was 1541, 1915 during 2011 and 2012 respectively. Among these, 57 and 28 were died during the same period. So that the total neonatal mortality rate (early and late) was 0.037 in 2011 compared to 0.0146 in 2012. The most common causes of neonatal deaths were prematurity and its complications, congenital anomalies.

Interpretation: Neonatal mortality rates has been decreased significantly in NPH in 2012 as compared to 2011. This could be mostly due to the overall quality improvement in NICU either by physical improvement including, building renovation, equipment, medications, medical supplies. And Human resources improvement, high qualified competent staff, improving and training of staff and the implementation of neonatal guidelines and Evidence based medicine.

Word Count: 254

Cross-sectional survey of compliance of doctors with infection control measures in the West Bank governmental hospitals.

Malik Zaben MD, PhD, MRCS, Academic and Research Fellow of Neurosurgery, Cardiff University, UK
Director of Health Sciences Education and CEO of IMET2000, Abu Tayeh A, Zaben F, Al-Hajjeh A,
Green C, Zaben M, International Medical Education Trust- Palestine (IMET2000-Pal)

Background: Hospital acquired infections, which can be transmitted from microorganisms on the hands of doctors to patients, remain an important cause of morbidity and mortality of hospitalized patients across the world. Doctors have different practices in adherence to infection control (IC) standards depending on their undergraduate training and possibly experience. This study aims to explore Palestinian doctors' knowledge of and compliance with IC standards in the governmental hospital. It is expected that this study will identify the IC training needs of this very important subgroup of healthcare workers.

Methods: A multi-centre, cross-sectional, descriptive study, using a self-administered questionnaire, was conducted in October-November 2013. Participants' knowledge and compliance regarding specific IC policies were examined using a scale of 0-9; 9 is the maximum possible score. Needs for training were also explored. Statistical Package for the Social Sciences (SPSS) was used for data analysis.

Findings: 90 doctors from 6 governmental hospitals in West Bank responded to our survey; 85.4% males, 27.8% juniors (internship), 61.1% residents and 11.1% consultants. Only 28.9% received IC training in their local hospitals. Our data analysis showed that the average score of knowledge in IC standards was 7.5, whilst the compliance score was only 4.7 (maximum possible score for each is 9). Juniors had the lowest score of compliance at 3.8 out of 9. Factors including subspecialty, gender and hospital where worked had no effect on either participants knowledge or compliance scores. The vast majority (96.7%) of participants indicated that infection control training is needed or very much needed.

Interpretation: While doctors' knowledge of IC standards is fairly acceptable, their compliance with these standards is unacceptably low. Their knowledge, behavior, attitudes and beliefs toward infection control measures need to be improved by problem-based training and a multimodal and multidisciplinary approach.

Word Count: 292

Comparison of Transpedicular Screw Fixation for Unstable Thoraco-lumbar fractures in the European Gaza Hospital and the Suez Canal Hospital in Egypt.

Dr. Nidal Abuhadrous, Head : Neurosurgery department at European Gaza hospital, Mohammad Matar, Departments of Radiology, EGH, Gaza, Faculty of Medicine, Islamic University, Gaza, Khamis Elessi Faculty of Medicine, Islamic University-Gaza, Sulaiman Abuhaiba Faculty of Medicine, Islamic University, Gaza, Khamis Elessi Faculty of Medicine, Islamic University-Gaza.

Background: Transpedicular screw fixation (TPSF) is advantageous for managing unstable thoraco-lumbar fractures, but can have devastating results if screws are placed inaccurately. Previously, patients were referred to Egypt, and this frequently led to delayed treatment.

Methods: We compared 12 cases of TPSF performed at EGH between September 2011 and August 2012 with 24 published cases performed at Suez Canal Hospital (SCH) between January 1996 and August 1998. All patients had traumatic, unstable vertebral fractures between T11 and L3. Visual Analogue Scale (VAS) was used ((1-10) to assess back pain and ASIA Scale [A, B, C, D, or E with A worst and E best]) to assess neurological deficits. We compared the differences between the 2 groups using point estimates and 95% confidence intervals. The VAS and ASIA scores were analyzed using 2-sample t-tests (between groups) and paired tests (within group). ASIA scores were analyzed as a continuous variable.

Findings: EGH series were younger (7.3 to 17.7), $p=0.0001$ than those in the SCH series. Occupational hazards were a common cause of fractures among EGH patients: 10/12 (83%) compared to 7/24 (29%) in the SCH series ($p=0.004$). Pre-operative pain severity and ASIA scores were similar in both series.

Pain scores improved post-operatively in both series with no evidence of difference on follow-up

ASIA scores improved (EGH +1 ASIA score (0.5 to 2) $p=0.01$, SCH +0.8 ASIA score (0.5 to 1) $p=0.0001$), with no evidence of difference on follow-up.

Interpretation: Although results are based on two small case series, we believe that such comparisons showed almost similar improvement in pain scores and neurological deficit and that the outcomes of TPSF done at EGH are comparable to those done at SCH which can reassure Palestinian patients from Gaza and relieve them from referral abroad.

Word Count: 289

Clinical audit as a tool to assess quality of service in a newly implemented program: A review of a pilot implementation of the WHO PEN approach in Salfit district, Palestine.

Ramez Dweikat, Nadim Bargouthi, Yaser Bouziyeh, Reem Abu-Hijleh, Asad Ramlawi, Ilham Shamasnah
Wendy Venter Public Health Officer WHO Palestine,

Background: Noncommunicable diseases (NCDs) and their complications are the leading cause of death and disability in Palestine. In the past, NCDs were managed through a vertical, disease-focused approach in the Palestine Ministry of Health (MOH) primary health care (PHC) clinics. In 2012 the MOH adopted a new approach, the World Health Organization's Package of Essential Noncommunicable Disease Interventions (PEN), which aims to integrate comprehensive NCD care into PHC through evidence-based protocols. The PEN places the patient at the center of care, instead of the disease. Patient management is individualized according to the combined effect of a number of risk factors, rather than treating individual diseases. The PEN was piloted in Salfit, a rural health district in the West Bank, from January to June 2013. During the pilot period, 2200 NCD patients were registered. A comprehensive review of the pilot was conducted during July to September 2013. Clinical audit was used to assess the quality of services provided.

Methodology: Clinical audit was performed on 493 patient files, randomly selected from the 2200 registered patients. The audit used a structured data collection tool including sections for file completeness and staff adherence to protocols.

Findings: The audit confirmed that staff generally follow the PEN protocols and adequately complete the patient record. However, the audit highlighted a number of problem areas, notably risk score calculations, urine testing, cholesterol testing and failure to refer according to the defined criteria. Also, the audit showed that in a substantial percentage of cases, doctors had failed to take appropriate clinical actions in the face of clear indications, e.g. failure to address high blood pressure and high blood glucose.

Interpretation: The audit identified areas where further PEN training and supervision are needed. Clinical audit is a useful tool to assess the quality of services provided through a newly-implemented program.

Word Count: 300

Distribution of Bacterial uropathogens and their antimicrobial susceptibility patterns (A twelve years retrospective study 2001-2013) in Palestine.

Ahmad Kilani, Medical Laboratory Sciences at Medicare-Medipal laboratories-Ramallah, West Bank, Palestine National Authority.

Background: The emergence of new resistant strains of bacteria has become one of the most serious global health themes. The medication of UTI's caused by resistant strains has turned to be an economic burden worldwide. Local community evaluation of susceptibility patterns for uropathogens is of great importance to reduce the misuse of empirical antibiotics. This study presents the incidence and wide spectrum of uropathogens in addition to their antibiotic susceptibility patterns.

Methods: A total of 16,883 urine culture samples were included in this retrospective study. The incidence of recovered uropathogens was estimated in the examined urine samples, as well as the sex and age groups of these patients. Furthermore, the antimicrobial susceptibility for all identified bacterial isolates was analyzed.

Results: 6,539 out of 16,883 urine culture samples produced significant bacterial growth. They were identified to be E. coli, coagulase negative Staphylococci, Streptococcus spp, S aureus, and Klebsiella spp, with their frequencies as follow (47%, 19.6%, 18.4%, 4.9%, 2.9%, respectively).

Gram positive uropathogens showed good susceptibility towards the local commonly used antibiotics in UTIs; Amoxi/clav, Cefuroxime ,Cephalothin , Sulpha /Trimethoprim, Nitrofurantoin, Ciprofloxacin, Ofloxacin and Norfloxacin (83.9%, 80.1%, 70.1%, 36.6%, 65.1, 57.6%, 51.6%, 47.8%, respectively).

Gram negative uropathogens showed good susceptibility towards Ciprofloxacin, Ofloxacin, norfloxacin, Cefuroxim,Nitrofurantoin, Sulpha/Trimethoprim, Nalidixic Acid, and Amoxi/clav, (76.1%, 71.8%, 72.9%, 64%, 67.5%, 48.7%, 57.6%, 42.1%, respectively).

Conclusions: It is highly important to monitor the incidence of common uropathogens and their antimicrobial susceptibility patterns regularly in order to maintain the best effective choices of treatment, this will minimize the UTI complications and therapy costs.

Word Count: 254

Detection of NDM-2 producing *Acinetobacter baumannii* and VIM-producing *Pseudomonas aeruginosa* in Palestine.

Isabella Sjölander Hudiksvall's Hospital, Sweden, Frank Hansen, SSI, Copenhagen, Denmark, Abdelraouf Elmanama, Medical Laboratory Sciences Department, Islamic University, Gaza, Palestine, Rasha Khayyat Al-Najah National University, Faculty of Medicine and Health Sciences, Palestine, Alaeddin Abu-Zant, Al-Najah National University, Faculty of Medicine and Health Sciences, Palestine, Ayman Hussein, Al-Najah National University, Faculty of Medicine and Health Sciences, Palestine, Adham Abu Taha, Al-Najah National University, Faculty of Medicine and Health Sciences, Palestine, Anette M. Hammerum, SSI, Copenhagen, Denmark, Oana Ciofu, University of Copenhagen, Department of International Health and Microbiology.

Objectives: The aim of this study was to screen for carbapenem resistant Gram-negative bacteria in Palestine and subsequently identify and investigate the mechanisms behind the resistance.

Methods: During six weeks, all Gram-negative isolates were collected from six Palestinian Hospital laboratories and susceptibility tested with 10µg meropenem discs. Isolates showing resistance to meropenem were further investigated; the presence of carbapenemases was assessed with polymerase chain reaction. In addition, antimicrobial susceptibility testing, an efflux pump inhibitor assay, and pulsed-field gel electrophoresis (PFGE) were performed. Isolates producing carbapenemases were further investigated by multi locus sequence typing.

Results: In total, 248 Gram-negative isolates were collected from the six laboratories. Among the 248 tested isolates, 15 *Acinetobacter baumannii* and 6 *Pseudomonas aeruginosa* were meropenem resistant. One *A. baumannii* from Gaza produced NDM-2 and belonged to ST103. 13 of the carbapenem resistant *A. baumannii* isolates possessed the intrinsic upregulated *bla*_{OXA-66} and one isolate *bla*_{OXA-51}. All but one of the OXA-66 producing *A. baumannii* belonged to ST2, the remaining isolate belonged to ST183. One of the carbapenem resistant *P. aeruginosa* was classified as VIM-4 and three were VIM-2 producing *P. aeruginosa* isolates. The three VIM-2 producing isolates belonged to three new sequences types (ST1562, ST1563 and ST1564). All the carbapenemase producing isolates were multi-resistant non-fermenters.

Conclusions: To our knowledge this is the first report on NDM producing *A. baumannii* and VIM producing *P. aeruginosa* from Palestine.

Word Count: 229

Rational Use of Neurological Computerized Tomography Scan at Shifa Hospital GAZA-Palestinian Territories.

Abdelrazeq Beram, Prince Naeif Center for radiodiagnostic, Gaza, Sami Alagha, M.D., Al-Azhar University-Gaza, Yousef Abu-Safieh, Ph.D., Al-Quds University –Palestine.

Background: Computerized tomography scan (CTs) utilization in the Gaza Strip has dramatically increased in recent years. An increase in the number of neurological CTs has been particularly noticed since the establishment of the CTs department. This increase is evident upon inspection of monthly and annual statistics obtained from hospital records. The purpose of this study was to assess the necessity of using neurological CTs, hoping to limit patient radiation exposure and minimize the financial burden on the Ministry of health (MOH).

Methods: A quantitative retrospective study based on hospital records was conducted at al-Shifa Hospital in Gaza city from 1-6-2011 to 31-8-2011. We used our own constructed checklist to review all neurological CTs requests including: availability and completeness of requests; patient demographic information; previous examination; clinical and medical data; and the results of neurological CTs examination in order to assess the necessity for CTs requests and identify the main factors affecting the number of neurological CTs requests.

Findings: During the selected period 1780 neurological CTs were detected and reviewed. Of these there were 1129 brain CTs requests. Males represented 57% of the CTs, and 42% were children. 90% of the physicians did not include in their requests if the patient had undergone previous examinations; 47.5% did not write the initial diagnosis; and 44.5% did not write the medical history. 55% of the requests were urgent. The findings were completely normal in 58.5% of total brain CTs examination, 42.0% of urgent examinations, and 78% of elective examinations.

Interpretation: CTs examinations seem to have been frequently used unnecessarily, leading to increased financial burden on the MOH, and un-necessary radiation exposure of patients, especially young children who are a most vulnerable group, and for whom Magnetic Resonance Imaging and ultra sound examinations should replace CTs.

Word Count: 292

Reducing the risk in central line associated blood stream infections: addressing evidence based practices of health care providers

Dina Nasser, Health advisor Juzoor for Health and Social Development, Senior infection prevention nurse, Augusta Victoria Hospital , Jihad Khair RN Deputy director of nursing AVH, Maha Tarayrah RN, MPA Director of nursing education & development AVH Dr. Yacoub Dhaher MT PhD Director of performance analysis AVH

Background: Augusta Victoria Hospital (AVH) is a tertiary hospital in East Jerusalem specializing in oncology and nephrology. Despite lack of mandatory reporting on Healthcare Acquired Infections (HAIs) in Palestine, AVH reports on HAIs as indicators of quality in line with JCIA requirements, among them Central Line Acquired Blood Stream Infections (CLABSIs); rates for comparable hospitals are reported as 5 per 1,000 by the NHSN/USA and three times higher by the INICC for developing countries. The incidence rate at AVH collected over seven months peaked at 26.2 per 1,000 in July 2013, prompting immediate intervention.

Methods: Re-verification of reported HAIs according to CDC definitions

Observational assessment of staff practices according to AVH's CLABSI prevention policy;

Designing and implementing a 2-day training for 12 staff from different units based on the CDC/CLABSI prevention guideline followed by bed-side observation of clinical practices;

Instituting documentation of staff name and purpose for each central line access;

Collecting bundle prevention checklist for all central lines on a daily basis

Findings: Assessments revealed good adherence to the prevention policy regarding insertion standards, and weaknesses in staff practices when accessing central lines including proper hand hygiene time, skin antiseptics, medication administration and blood sampling.

50% of CLABSI cases were from the pediatric unit. In the month following training there were zero cases.

Interpretation: Standards for CLABSI prevention are multifactorial; physical resources were not contributing factors in this instance, rather poor adherence to policy practices. Interventions focused on training and tools to monitor clinical practice to narrow performance gaps and identify potential areas of further risk. Systematic monitoring of CLABSIs at AVH may be the first of its kind in Palestine hence the need to review disaggregated data for each unit and calculate risk ratios to determine if the pediatric unit is an area of particular risk.

Word Count: 298

Wellbeing and distress in two West Bank villages.

Yoke Rabaia Institute of Community and Public Health, Birzeit University, Van de Ven, P.M. (PhD)
Department of Epidemiology and Biostatistics, VU University Medical Center, Giacaman, R.
(PharmD)Institute of Community and Public Health, Birzeit University, De Jong, J.T.V.M. (MD, PhD),
Amsterdam Institute for Social Science Research (AISSR), University of Amsterdam.

Background: Researchers studying wellbeing of people exposed to long-term political turmoil have tended to focus on traumatic events, while attention to factors related to daily living is relatively new. How do study-participants themselves explicate stress and does that relate to trauma or context?

Methods: We used qualitative and quantitative data from a 2005 survey of all female family caretakers in two Israeli-occupied West Bank villages (n=820) and developed a structural equation model exploring participants' perceived nature of stress in relation to contextual factors, symptoms of mental and physical distress and ultimately their score on the WHO-5 well-being index.

Findings: Perception of stress was categorized and included in the model as social, psychological, financial, health-related, and political, with the latter including traumatic events related to the occupation. The model showed adequate fit (RMSEA = 0.023, CFI = 0.933, $\chi^2/df = 1.4$) and explained 36% of the variance in well-being. Well-being was found to be negatively associated with symptoms of anxiety and depression (standardized beta = -0.36), which were most common in women reporting social, psychological, financial and political pressures (standardized betas = 0.27, 0.19, 0.19 and 0.10, respectively). Somatic symptoms were common in women reporting social, health and financial pressures (standardized betas = 0.21, 0.12, 0.08, respectively). Contextual factors directly and positively associated with wellbeing were: proportion of household members employed (.06; $p < 0.10$), and number of rooms (.1; $p < 0.05$). Widowhood was negatively associated with wellbeing (-.09; $p < 0.001$)

Interpretation: This study supports the shift in research focus from trauma-oriented towards daily context in populations exposed to long-term political turmoil.

Within the complex interplay of factors associated with stress and wellbeing of female caretakers of families, psychosocial interventions combined with alleviation of unemployment may be most effective in influencing reduction of pressures and increase in wellbeing.

Word Count: 293

Mapping the mental health system in the West Bank

Hanna Kienzler PhD, School of Social Science and Public Policy King's College London, Zeina Amro MSc, Institute of Community and Public Health Birzeit University, West Bank, Palestine.

Background: In 2012, the Palestinian Ministry of Health (MoH) and the WHO started a three-year initiative with funding from the European Union to improve the mental health system in the oPt. This is the second phase of a project to reform the institution-based mental health system by introducing a community-based approach. This qualitative study examines the recent reform activities and their effect on the mental health system in the West Bank.

Methods: Palestinian and international organizations listing mental health and psychosocial services on their websites were identified through registries. From this initial sample, institutions (14) with ongoing mental health services were selected and semi-structured interviews conducted with their staff including: psychiatrists (4), psychologists (7), counselors (6), and project coordinators (8). Interviews were tape-recorded and analyzed using Atlas.ti and thematic analysis.

Findings: We provide a detailed portrait of the mental health system and several of its shortcomings and strengths. The current organization of the mental health system is delineated and illustrated through a network showing how government institutions, NGOs and foundations, UN organizations, and universities interact through professional support, funding, referral of patients, and mental health services. The system's weaknesses most frequently mentioned by interviewees were the lack of a system structure, lack of MoH leadership, funding gaps, donor dependency, too many short-term projects, shortage of mental health professionals, weak education and training system, and stigma. Reported strengths included growing expertise in a range of therapeutic treatment strategies, increasing partnerships between organizations, and better integration of mental health into primary healthcare.

Interpretation: Initial results demonstrate the need for cooperative effort to improve coordination between the different stakeholders; a review of the university curricula, the establishment of international exchange programs and a properly functioning residency program to improve professional capacity; and donors' shift from investment in short-term emergency interventions to long-term development.

Word Count: 300

The assessment of mental health conditions among Primary Health Care patients visiting general health practitioners in 3 West Bank Governorates using the GHQ-12 questionnaire

Lama Jamjoum, PhD, Research consultant, Rajiah Abu Sway, Mental Health Officer- WHO, Wendy Venter, Public health officer- WHO West Bank and Gaza office Hazem Ashour, MD, Director, Mental Health Unit, Palestinian Ministry of Health

Background: Common mental disorders (CMDs) are leading causes of morbidity and disability worldwide. CMDs are measured in population studies using the General Health Questionnaires (GHQ-12). The survey was conducted by the WHO in the West Bank in October – November 2013. The survey is part of a program for the integration of mental health services in PHC. It aims at obtaining baseline measure for the prevalence of CMD cases and for the detection, treatment and referral of these cases in the primary health care for future comparisons.

Methodology: We selected a random sample of 600 adult PHC attendees visiting general health practitioners at 3 level 4 PHC centers in Nablus, Ramallah, and Bethlehem governorates. Patients were interviewed by nurses to fill the GHQ-12 questionnaire before their physician visit. The patients' medical records were then checked for diagnosis, treatment and referral.

The questionnaire includes 12 questions about mental health conditions of patients over the previous two weeks. Data was analyzed using SPSS. A score was calculated to summarize responses for the 12 questions. A score of 0-5 indicates that the patient is not a CMD case, a score of 6-7 indicates a mild case, and a score of 8-12 indicates a moderate or severe CMD case.

Findings & Interpretation: The total prevalence of CMD cases is 26%, including 13% mild cases and 13% moderate to severe cases. The prevalence of CMD cases varied by governorate (Nablus 27%, Ramallah 19%, Bethlehem 32%); type of locality (urban 24%, rural 33%, refugee camps 17%); sex (females 23%, males 28%) level of education (less than high school 33%, high school 21%, more than high school 17%), current work (yes 16%, no 30%), and type of work (blue collar workers 39%, white collar employees 16%). No detection, follow-up, or referral was done at the PHC level.

Word Count: 299

Integrating mental health care in Primary Health Care (PHC) services in the occupied Palestinian territory: outcomes of integration mental health care in Non-Communicable Diseases (NCD) programme.

Mustafa ElMasri, Dyaa Saymah Mental Health officer at World Health Organization, Fouad Al Issawi, Mahmoud Daher, Hasnaa El Sharief, Amal Zakout, Yousef Abu Rahma.

Background: The prevalence rate of mental health problems in the governmental PHC in Gaza is 37.8%. The ability to detect and manage Common Mental Disorders (CMD) in the PHC was very low. The Ministry of Health (MoH) and the World Health Organization (WHO) implemented a stepped-care collaborative programme in eight PHC centres in North Gaza to manage CMD amongst patients with NCDs.

Methods: All visiting adult NCD patients from February to September 2013 were screened for CMDs. Patients who screened positive and agreed to participate were recruited (N=220). The score of the Patient Health Questionnaire (PHQ-9) was used to track improvement in depression symptoms. Binary logistic regression was used to test variables associated with improvement. The defaulter patients were telephone-interviewed to identify the reason for drop out.

Findings: Fifty percent of participants had Hypertension, 39.5% Diabetes Miletus, 12.5% Cardiovascular diseases and 5.1% Bronchial Asthma. Depression was found in 67%, Anxiety in 5%, and mixed Depression and anxiety in 28%. The mean age of participants was 40.2 (std=13.8) and 71.6% were females. Guided self-help was used with all patients and problem solving with 22%. Prozac was prescribed to 24% of patients and Amitriptyline to 18%. The PHQ-9 scores revealed 54.1% good response in the depression symptoms. The lower the initial PHQ score and the higher the number of contacts were associated with improvement. Reasons given for drop out were stigma, high expectation from the service and early improvement.

Interpretation: . The stepped -care collaborative model of intervention with NCD patients who developed CMD proved to be effective. Adherence to the programme was associated with better improvement. Our study findings call the MoH to extend the integration of mental health to other PHC centres in the Gaza Strip. Addressing reasons for drop out will improve adherence.

Word Count: 294

Psychosocial health, sense of control and marital insecurity among Palestinian menopausal women: a pilot study from the West Bank

Shiraz Nasr, The Institute of Community and Public Health (ICPH) , Birzeit University (BZU), Birzeit, Palestine, Sawsan Imseeh, The Institute of Community and Public Health (ICPH) , Birzeit University (BZU), Birzeit, Palestine., Lee Moya Bradley, The Institute of Community and Public Health (ICPH) , Birzeit University (BZU), Birzeit, Palestine. Asad Ramlawi Director of Primary Health Care, Palestinian Ministry of Health (MOH), Ramallah, West Bank, Palestine. Niveen Abu Rmeileh and Rita Giacaman The Institute of Community and Public Health (ICPH) , Birzeit University (BZU), Birzeit, Palestine.

Background: The Palestinian Ministry of Health (PMOH) commissioned ICPH to conduct a study of menopausal women's physical and psychosocial health needs and life quality, with the aim of introducing a new holistic program in PMOH clinics catering to the needs of this neglected group of women.

Method: purposeful/convenience sample of 966 married menopausal women aged 45-65 years were interviewed in 17 MOH clinics in north, center and south West Bank. Instruments found in the literature were not completely relevant to context. A local instrument was developed based on some literature questions, combined with results of a pilot qualitative study about the subject. Ethical approval was obtained from the ICPH Ethical Research Committee; verbal consent was obtained and response rate was 91%. Scales were constructed for women's psychosocial health (SSH), marital insecurities (MI) and sense of control and fulfillment (SOCF), with good to excellent alphas (0.78, 0.85, 0.91 respectively). Logistic regression was used to check for confounders. Data were analyzed with SPSS (version 22).

Findings: Mean age was 53 years. 73% had less than high school education. Bivariate analysis showed significant associations between SSH and selected associated factors included in regression analysis. Logistic regression revealed women from North West Bank were more likely to have SSH problems (OR= 1.12), women with high SOCF were less likely to have SSH problems (OR= 0.206). Women from rural areas were less likely to have SSH problems (OR= 0.745) Women with little or no family support were more likely to have SSH problems (OR= 1.192). Women who reported high MI were more likely to have SSH problems (OR 1.810). Less educated women were less likely to have SSH problems but not significantly (OR= 0.685).

Interpretation: These results highlight the need to set up women support groups at MoH clinics in addition to provision of menopausal medical services.

Word Count: 303

Effect of screening mammography on women's morbidity from breast cancer in Palestine: A retrospective cohort study.

Salwa Massad PHD, WHO Palestinian National Institute of Public Health Project, Izzat Ryan, MCPH, WHO Palestinian National Institute of Public Health Project, Rand Salman, MPH WHO Palestinian National Institute of Public Health Project, Taghreed Hijaz, MCPH Palestinian Ministry of Health, Asad Ramlawi, MD Palestinian Ministry of Health, Ramallah, Palestine.

Background: In 2009, the Palestinian Ministry of Health (MoH) initiated a free mammogram screening program for breast cancer in 12 West Bank districts and one clinic in the Gaza Strip. The aim of this study is to examine the impact of mammography screening on women's morbidity.

Methods: We extracted secondary data of suspected cases from the 2011 mammogram registries at Primary Health Care. We conducted interviews with mammography technicians, supervisors and doctors and checked referrals for treatment for breast cancer at MoH referral department.

Findings: In West Bank, the shortage of physicians/ radiologists led to delay in reading mammography films, it varies between 1-60 days. Out of the 6746 screened women, 6.2% (417/6746) were suspected cases. About one third (136/417) of the suspected cases were diagnostic (for women with signs and symptoms). Of the remaining women with suspected cancer (281 screening cases), 14.6% (41/281) were diagnosed with breast cancer. Of the 41 diagnosed cases, 51% (21/41) were found in the cancer registry, with all but one without the stage of cancer. In the Gaza Strip, of the 699 screened women, 2.4% (17/699) were suspected cases. Four of the 17 suspected cases were confirmed to have breast cancer. Among these 4 cases, 3 were found in the cancer registry. The absence of identification of the stage of cancer at the cancer registry limited our ability to examine the impact of screening on women's morbidity.

Interpretation: This important initiative requires further support in training further the current practitioners and training more physicians/radiologists to speed the process of reading results; extracting diagnostic cases from primary health care for timely referral to secondary health care; and improving the completeness and quality of the cancer registry, through better communication between surgeons, oncologists, and pathologists to determine the stage of cancer, and to enforce cancer notification.

Word Count: 300

Colorectal Cancer Risk Factors in Gaza Governorates.

Haya Nabeel Al Rayess, Medical Technologist - Palestinian Ministry of health- Master of Public Health, Gaza, Dr Yehia Abed Al Quds University.

Background: Colorectal cancer is one of top five cancers in Palestine. Risk or protection from it comprises genetic and environmental (nutritional and lifestyle behaviors) factors.

Objective: The study was conducted to identify the most common risk factors that may be associated with colorectal cancer among Gaza Governorates population.

Methods: A case control study involved 66 registered colorectal cancer patients from Al Shifa and Gaza European hospitals matched with two controls (chosen from primary health care centers) for each. An interviewed questionnaire was used comparing between cases and controls including socioeconomic factors, family history, chronic diseases, dietary habits, lifestyles, supplementations, medications, health education and screening. OR with 95% confidence interval besides Chi square test were calculated examining statistical significance; significant was for P value <0.05.

Results: Risk of colorectal cancer has increased with: lower income level OR=6.5(2.39-18.29), lower educational level OR=2.53(0.91-7.1), some professions OR=3.42(1.49-7.93), family history OR=4.2(1.35-13.54), chronic bowel disturbances OR=42.8(15.5-124.7), eating fried fish OR=6.6(1.77-29.08), prefer eating red meat OR=2.1(1.1-4.0) and poor health knowledge OR=2.38(1.17-4.86). While protection was obtained from regular fruits intake OR=0.3(0.09-0.98), cereals OR=0.5(0.26-0.96), bran bread OR=0.44(0.21-0.94), prefer eating vegetables OR=0.51(0.24-1.0), calcium supplementation intake OR=0.36(0.13-0.91), and attending health educational lectures about healthy nutrition and life styles OR=0.51(0.25-1.0). Colorectal cancer screening tests were performed for diagnosis rather than screening. No association was with other chronic diseases, other types of food, life styles and supplementations.

Conclusion: Risk was found with: family history, chronic bowel disturbances, socioeconomic factors, some food, and poor health knowledge, protection was associated with some other food and calcium. Recommendations to improve community health education provide suitable screening programs; improve cancer patients registry and encouraging further related studies.

Word Count: 270

Disability among children in the occupied Palestinian territory (oPt)

Dima Khoury, Office Manager, Abraaj Group, MPH Candidate, Ansam Al-Khatib Dentist- Private Dental Clinic; MPH Candidate, Nisreen Shelleh, Coordinator- Center for Engineering and Planning; MPH Candidate, Shayma Hijazi, Nurse- Dajani Maternity Hospital; MPH Candidate, Rula Ghandour BPharm MPH, Professor Rita Giacaman PharmD, MPhil, Supervisor, Institute of Community and Public Health , Birzeit University.

Background Disabilities are impairments or limitations varying between groups, localities and status. They could range from mental and intellectual to sensory and physical. In the oPt, little attention is paid to the disabled, reasons behind their disability(s), and the prevalence of different disabilities among communities. This study focuses on disabilities in children 0-17 years in the oPt in 2011.

Methods the Disability Survey,2011 of the Palestinian Central Bureau of Statistics was used in this analysis, and no written consent was needed. 42,176 children were included representing all children in the oPt. Data was analyzed with frequencies, cross tabs and significance testing, and regression analysis to test for confounders using SPSS v.17.

Findings Prevalence of disability was 1586(3.7%), with intellectual disabilities at 33% of all disabilities, communication at 31%, seeing at 28%, remembering at 25%, mobility at 24%, hearing at 16%, and mental disabilities at 9%. There were higher reports of disability among males compared to females(OR 1.37; 95% CI:1.24-1.52). Disability increased with age(OR 1.07; 95% CI:1.06-1.08) and increasing household size(OR 1.02;95% CI:1.00-1.04). Disability was higher in South West Bank and Gaza Strip compared to the Center West Bank(OR 1.32; 95% CI:1.11-1.57); higher among refugees compared to non-refugees(OR 1.17; 95% CI:1.05-1.31). 520(33%) of the disabled have more than one disability.

Interpretation Higher disabilities in South West Bank and Gaza Strip maybe due to high crowding levels, usually associated with poverty. Increasing disability with age may be due to exposure to disabling environments or insufficient access to child health care. It was not possible to analyze data by locale (urban, rural, refugee camp) as this variable was not found in the data set making it impossible to explain higher disability levels among refugees. Further studies are recommended to explain these findings and attention needs to be given to children with disabilities.

Word Count: 299

The Association between Socio-demographic Factors and the Prevalence of Disability among the Elderly in Palestine.

Jeda Jasser Institute of Community and Public health, Birzeit University, Ziq L , Shalash A, Harshe N, Barakat T, Ghandour R, Giacaman R.(Supervisor)MPH students, research assistant and Supervisor, Institute of Community and Public health, Birzeit University.

Background: Disability among the elderly has become a major public health issue in recent years. Over one billion people live with disability around the world. In Palestine, disability among the elderly is still not well understood. This study aims to assess the prevalence of disability among Palestinians 50 years or older and associated factors.

Methodology: Data was obtained from the Palestinian Central Bureau of Statistics Disability Survey 2011, representing all of the Palestinian population, thus not requiring ethical approval. Persons aged 50 years or more were selected. Frequency distributions, cross tabulation with significance testing were used to inspect the data. Regression analysis was conducted to check for confounders using SPSS 17.

Results: 29% (2518) of the elderly reported having at least one disability, with 53% mobility, 26% seeing, 11% hearing, 6.7% remembering, 1.5% mental, 1.2% communication, and 1% intellectual. Males were less likely to be disabled than females(OR:0.753 95% CI:0.637-0.890). The disability level increased at age 70 and above (OR:1.963 95%CI:1.669-2.309). The percentage of disabled elderly increased among illiterates compared to educated (OR:2.93 95%CI:2.36-3.63);decreased with increasing family size 3-6 persons and 7-27(OR:0.731 95% CI:0.634-0.843 ,OR:0.50 95% CI:0.499-0.697)), increased among refugees compared to non-refugee (OR:1.256 95%CI:1.073-1.470) , among non-workers compared to workers (OR: 2.96 95%CI: 2.45-3.49),and ever married compared to married persons(OR:1.253 95%CI:1.072-1.465) .Disability is more prevalent in the Gaza Strip than in the West Bank (OR: 2.23, 95% CI: 1.89-2.63).

Conclusion: Disability is prevalent among women more than men, perhaps because women live longer than men; and among large family sizes, likely due to poverty. It was not possible to analyze the data by locale (urban, rural, camp), making it impossible to adequately assess the results related to refugee status. Further studies are needed to explain the differences in disability prevalence in the Palestinian population.

Word Count: 293

Quality of asthma control among adult Palestinians: A cross sectional study.

Maher Khmour, Faculty of Pharmacy, Al-Quds University, Abu-Dies, Jerusalem, Hussein Hallak, Faculty of Pharmacy, Al-Quds University, Abu-Dies, Jerusalem, , Qusai Al-Shahed, Department of Pharmacy, Patient Friends Society/Al-Rahma PolyClinic, Nablus, Palestine, Ibtisam Al-Titi, Nursing Department, MOH, Palestine

Background: There is little or no data available on the effectiveness of asthma management in the Palestinian asthmatic patients. The aim of this study was to evaluate the current level of asthma control and to assess the factors that might influence disease control.

Method: This was a cross-sectional epidemiological study. The patients enrolled were 18 years of age or over, with a 6-month history of diagnosed persistent asthma, who were followed up by primary care physicians in Ramallah and Nablus between the months of May and September 2013. Asthma diagnosis was based on a history of recurrent symptoms of wheezing, shortness of breath and cough. Demographic, socioeconomic data and different clinical variables were collected.

Findings: A total of 116 patients with asthma were recruited into the study, 61(52.6%) were females. The median duration of asthma was 9.9 years. Most of the patients 69 (59.5%) had mild persistent asthma, 35 (30.2%) were moderate and 12 (10.3 %) had severe persistent asthma. It was seen that 15(12.9%) of the patients had been admitted to emergency service once. A high proportion of patients 29(25.0%) were current smokers. Among the study group 6 (5.2%) of patients were hospitalized once in the previous year. According to Asthma Control Test(ACT); 45 (38.8%) were found to be well-controlled disease, 39(33.6%) were defined as moderately controlled and 32 (27.6%) were poor controlled disease. More than half of the patients 62 (53.4%) reported had a poor quality of life. Multiple regression analysis showed that the factor that most affected the degree of control of the disease was severity of the disease [OR=1.4, 95% CI 0.9-1.8] , level of education[OR=1.2, 95% CI 0.6-1.7], years since diagnosis of asthma [OR=2.4, 95% CI 1.7-3.1] and number of exacerbations and admissions to hospital during the last year [OR=3.1, 95% CI 2.5-3.8].

Interpretations: Despite the high percentage of drug users, the control of symptoms and exacerbations was overall poor in Palestine. There are demographic, and clinical variables that affect the level of control of this disease.

Word Count: 333

Patient perceptions of changes in noncommunicable diseases services in Palestine Ministry of Health primary health care clinics since implementation of the WHO Package of Essential NCD Interventions.

Nadim Bargouthi WHO, Ramez Dweikat WHO, Yaser Bouziyeh WHO, Reem Abu-Hijleh WHO, Ilham Shamasnah WHO, Asad Ramlawi WHO Wendy Venter Public Health Officer WHO Palestine,

Background: Noncommunicable Diseases (NCDs) are a major contributor to disease and economic burdens in Palestine. During the period January to June 2013 the Palestine Ministry of Health (MOH) and the World Health Organization (WHO) introduced an evidence-based, cost-effective package, the WHO Package of Essential NCD Interventions, through a pilot project in 14 primary care clinics in the West Bank. After the 6 months, a project review was conducted, including an assessment of NCD patients' perception of changes in NCD services.

Methodology: Participative Ranking Methodology (PRM) was used. PRM uses both a qualitative component that allows in-depth discussion and a quantitative component that allows ranking of issues identified as important by participants. We conducted PRM discussions with 2 groups of male NCD patients and 2 groups of female NCD patients, representing 11 clinics. Discussions were introduced by asking participants if they had perceived any changes in the NCD services provided to them in MOH clinics.

Findings: All 4 groups identified positive changes in NCD service delivery since the introduction of the PEN. Various aspects related to improvement of the consultation experience with the doctor (physical examination, contact time, medication adjustments) were ranked high by all groups. Regular measurements (blood pressure, waist circumference, weight) by the nurse and the fact the health education messages are now provided by the nurse were also noted as important by all 4 groups. Reduced waiting time and the new appointment system were also mentioned.

Interpretation: Patients perceived positive changes in quality of NCD services since introduction of the PEN. PRM is a relatively rapid and easily-implemented data collection method that has potential for future use in understanding patient perceptions of quality of care.

Word Count:277

Evaluation of pre-and postnatal care of gestational diabetes and gestational hypertension in high risk pregnancy clinics in Hebron, West Bank: A follow up comparative study

Ibtisam Titi, MPH, Palestinian Ministry of Health, Hebron, West Bank; Nuha El Sharif, PhD, School of Public Health, Al Quads University-Abu Dis, East Jerusalem

Background: Worldwide, gestational diabetes (GD) and hypertension (GH) with their adverse outcomes are increasing. Appropriate prenatal follow-up care is believed to reduce such outcomes both for mothers and infants. The study aim was to describe and evaluate high risk pregnancy (HRP) care in Palestinian Ministry of Health HRP clinics in Hebron district related to GH and GD.

Methodology: All files of women registered at the main six HRP clinics from January 1 to December 31 in 2009 were investigated to estimate prevalence of GD and GH. Then, from October 1, 2010 to January 31, 2011 we followed up all the women who during last delivery in 2009 had GD and/or GH (60 out of 600). In addition, 60 women's files with other complications were randomly selected as comparative group. A questionnaire interview was performed and written consent was obtained. SPSS version 16 was used in data analyses ($p < 0.05$).

Findings: In 2009, 41.7% of cases had GD, 40.0% had GH and 18.3% had both. In 2010, 68% of GD cases still had diabetes, 70% of GH had hypertension, and 72% having both continued to have diabetes and hypertension. Of the 60 cases, 43.1% did not visit a doctor after previous delivery, and 28.6% were still having GD, 42.9% continued to have GH and 28.6% had both. After delivery, none of the cases had OGTT, urine test, or lipid profiling. The case infants suffered from all the complications in higher percentage than the comparison group, 3.4% had diabetes, and 60.3% of them were under care of private doctors.

Interpretation: The study emphasizes the need for pre- and postnatal services targeted these high risk disorders and their complications. Studies are needed for development of strategies and protocols for prenatal and postnatal care of pregnancy disorders and their outcome in mothers and infants.

Word Count: 300

Retinopathy among Palestinian diabetes patients in a clinic based study in Ramallah governorate: a cross sectional study.

Nahed Mikki Institute of Community and Public Health, Birzeit University, Palestine, Rula Ghandour (MPH) The Institute of Community and Public Health, Birzeit University, Palestine, Mohammad Maali (MD) Saint John hospital, East Jerusalem, Palestine. Margareta Norberg (PhD) Umeå Centre for Global Health Research, Department of Public Health and Clinical Medicine, Umeå University, Sweden. Hans Stenlund (PhD) Umeå Centre for Global Health Research, Department of Public Health and Clinical Medicine, Umeå University, Sweden., Sawsan Imseeh (MPH) The Institute of Community and Public Health, Birzeit University, Palestine. Abdullatif Husseini (PhD) The Institute of Community and Public Health, Birzeit University, Palestine.

Background: In 2010, Diabetes Mellitus (DM) was the fourth leading cause of death in the West Bank (WB) causing 8.7% of deaths. Few reliable data exist for DM complications. This study aimed to estimate the prevalence of retinopathy and its determinants in a clinic-based sample in Ramallah governorate, WB.

Methodology: The study was conducted in 11 main clinics (4 United Nations Relief and Works Agency, 5 Ministry of Health (MoH), 2 joint MoH and non-governmental organizations). Type 2 DM patients older than 25 years were identified from clinic databases and oral witnessed consent was obtained. Questionnaire including sociodemographic factors, physical examination including blood pressure and eye exam using slit lamp and lab tests (HbA1c, lipid profile) were performed. Retinopathy was classified using the International Clinical Diabetic Retinopathy Disease Severity Scale. Data were collected February-June 2012 and analyzed using SPSS 22. Variables with $P < 0.05$ in univariate logistic regression model were entered into a multivariate logistic regression model adjusted for age and sex to study the association between retinopathy and determinants.

Results: Eye exams were performed for 376 patients (127 males, 249 females). Response rate was 73.0%. Mean age and mean duration of diabetes were 57.8 ± 9.0 and 8.9 ± 7.0 years, respectively. Only 20.5% of patients were controlled ($HbA1c < 7$), and 36.6% had never had their eyes examined. The prevalence of retinopathy was 36.7% (40.9% males, 34.5% females). Multivariate regression model showed that HbA1c, DM duration and systolic blood pressure were significantly associated with having retinopathy with OR 1.29 (95% CI 1.12-1.50), OR 3.60 (95% CI 2.60-5.18) and OR 1.02 (95% CI 1.01-1.04), respectively.

Interpretation:

Retinopathy was common, and diabetes patients should perform eye exams on a regular basis. The study indicates some potential areas for improved diabetes management.

Word Count: 284

Prevalence of Depression among People with Type 2 Diabetes Mellitus: a Cross Sectional Study in Palestine.

Waleed M. Sweileh Department of Pharmacology/ Toxicology, College of medicine and health sciences, An-Najah National University, Hanadi M. Abu-Hadeed, Qalqilia Governmental Hospital, Ministry of Health, Samah W. Al-Jabi Department of clinical pharmacy and Pharmacotherapy, College of medicine and health sciences, An-Najah National University, Nablus Sa'ed H. Zyoud Department of Pharmacology/ Toxicology, College of medicine and health sciences, An-Najah National University, Nablus, Palestine.

Background: Diabetes mellitus is a common chronic metabolic disorder and one of the main causes of death in Palestine. Palestinians are continuously living under stressful economic and military conditions which make them psychologically vulnerable. The purpose of this study was to investigate the prevalence of depression among type II diabetic patients and to examine the relationship between depression and socio-demographic factors, clinical factors, and glycemic control.

Methods: This was a cross-sectional clinical study at Al-Makhfiah primary healthcare center, Nablus, Palestine. Two hundred and ninety-four patients were surveyed for the presence of depressive symptoms using Beck Depression Inventory (BDI-II) scale. In addition, patients' records were reviewed to abstract the following data: socio-demographic characteristics including: age, sex, marital status, level of education, smoking status, Body Mass Index (BMI), duration of diabetes, glycemic control using HbA1C test, use of insulin, and presence of additional illnesses. Patients' medication adherence was assessed using the 8-item Morisky Medication Adherence Scale (MMAS-8).

Results: One hundred and sixty four patients (55.8%) of the total sample were females and 216 (73.5%) were < 65 years old. One hundred and twenty patients (40.2%) scored ≥ 16 on BDI-II scale. Statistical significant association was found between high BDI-II score (≥ 16) and female gender, low educational level, having no current job, having multiple additional illnesses, low medication adherence and obesity ($BMI \geq 30\text{kg/m}^2$). No significant association between BDI score and glycemic control, duration of diabetes, and other socio-demographic factors was found. Multivariate analysis showed that low educational level, having no current job, having multiple additional illnesses and low medication adherence were significantly associated with high BDI-II scores.

Conclusion: Prevalence of depression found in our study was higher than that reported in other countries. Although 40% of the screened patients were potential cases of depression, none were being treated with anti-depressants. Psychosocial assessment should be part of routine clinical evaluation of these patients at primary healthcare clinics to improve quality of life and decrease adverse outcomes among diabetic patients.

Word Count: 326

Out teach screening for diabetes among Palestine refugees.

Yousef Shahin Chief Health Protection and Promotion, UNRWA HQ, Amman, Jordan Dr. Akihiro Seit, Director of Health, UNRWA HQ, Amman, Jordan, Dr. Ali Khader, Family Health Team Coordinator, UNRWA HQ, Amman, Jordan, Wafaa Zeidan Senior Statistician, UNRWA HQ, Amman, Jordan, Dr. Isa Saleh Field Disease Control Officer, UNRWA, Gaza, Dr. Ali Odatallah Field Disease Control Officer, UNRWA, Amman, Jordan, Dr. Mahmoud Wohoush Field Disease Control Officer, UNRWA, West Bank, Dr. Nimer Kassim Field Disease Control Officer, UNRWA, Beirut, Lebanon.

Background: United Nations Relief and Works Agency (UNRWA) has been providing diabetes and hypertension care at its health centers since 1992, diabetes care includes screening of high risk groups, diagnosis, and treatment with lifestyle education and medical treatment. For improving early detection of diabetes, UNRWA conducted outreach screening activities outside its health centers in Jordan, West Bank, Gaza, and Lebanon during the period from April to November 2013.

Methods A total of 21,115 persons above the age of 40 years, or at least with one risk factor (obesity , smoking and family history), were screened outside UNRWA clinics for diabetes and hypertension using glucometers and digital sphygmomanometers. Those identified with abnormal results (random blood sugar ≥ 126 gm/dl and/or blood pressure $\geq 140/90$ mmHg) were rechecked at nearby UNRWA health center for fasting blood sugar and for repeated blood pressure measurements. Those of at least two abnormal readings were diagnosed with diabetes and/or hypertension.

Data collected by staff at each health center was compiled and analyzed using Excel. Patients provided informed verbal consent. The audit protocol was approved and cleared by UNRWA's Health Department ethical committee.

Findings Out of the 21,115 persons, 57 % were females. Screening was conducted during 398 sessions in different locations inside and outside Palestine refugee camps. The percentage of persons with abnormal blood sugar and blood pressure readings were at 16.0% and 14% respectively, and those confirmed with diabetes and hypertension were at 5.2% at 5.3% consequently.

Interpretation Early detection of diabetes is important for timely management and prevention of complications, there is a need to conduct outreach activities to screen those who do not visit UNRWA health centers, we also need to focus more on men, and patients with confirmed diagnosis need to adhere to healthy life measures and followed up regularly by health staff.

Word Count: 299

Effect of Diabetes Education Program on Type 2 Diabetic Patients in Palestine.

Haleama Al Sabbah Zayed University, Public Health Nutrition Department, Dubai, UAE, Osama Rashed Tulkarm Directorate of Health, West Bank, Palestine.

Background: In the Palestinian community, lifestyle changes, rapid urbanization, stress, and smoking, may increase the risk of non-communicable diseases especially type 2 diabetes mellitus. Diabetic complications can be prevented if the glycemic status is maintained within a nearly normal range. Therefore, patient education is critical in controlling glucose levels within the normal range. The aim of this study was to measure the effect of diabetes educational program on type 2 diabetic patients.

Methods: In total, a convenient sample of 215 patients were attended a group-based educational intervention sessions about diabetes. Knowledge evaluation questionnaires were administered before and after the implementation of the intervention program. Anthropometric measurements and lab tests were also measured before and after the intervention. Ethical approval was obtained from the university IRB before data collection. Significance of the results was assessed by paired t- test at 95% confidence interval using SPSS version 16.

Findings: The mean age of participants was 51years. Of the total (215), 41.4 % were males and

58.6% were females. A significant increase in knowledge evaluation test scores (Mean± SD) was shown after the educational intervention program (60.6±20.7 to 78.1±13.4) (p <0.001). BMI (Mean± SD) was decreased significantly after conducting the educational intervention program (32.1±5.76 to 31.23±5.8) (p <0.001). Moreover, a significant decrease was reported in glycosylated hemoglobin (Mean± SD) after the intervention program (8.57± 1.21 to 7.95±1.42) (p<0.001).

Interpretation: Diabetes education is a cornerstone in the management and care of diabetes and should be an integral part of health planning involving patient's family, diabetes care team, community and decision makers in the education process.

Word Count: 261

Pregnancy by chance not by choice: Determinants of unintended pregnancy among Palestinian women in West Bank: Insights from the Ramallah District

Eatimad Abbas: MPH. Lecturer and clinical Instructor, Ibn Sina College for Health sciences: Nursing & Midwifery Departments

Background: About 39% of pregnancies among Palestinian women are unintended. Yet, the determinants and consequences of unintended pregnancy are poorly understood. This study explored the determinants of unintended pregnancy among Ramallah District women.

Method: 26 Palestinian women participated in five focus groups. Their ages ranged from 24-48 years. All were married and had a history of unintended pregnancy. Purposive sampling to achieve diversity in age, education, employment, and place of residence was used with 9 women from rural areas, 12 from urban areas and 6 from refugee camps participating. Verbal consent was obtained. Focus groups were taped and transcribed verbatim.

We explored participants' personal, social, cultural, emotional and economical circumstances associated with unintended pregnancy. We also assessed contraceptive uses and consequences of unintended pregnancy. Thematic analysis based on research objectives was completed.

Findings: Recurrent unintended pregnancy was mainly associated with breastfeeding, coitus interruptus and calendar method contraceptive use. Barriers to using effective contraceptives included socio-cultural factors such as in-laws/husband forbidding contraception, fear of side-effects of intrauterine contraceptive devices and hormonal contraceptives, and refusal of condom by husband. Most considered abortion but did not complete the procedure due to religious beliefs prohibiting abortion and lack of medical support. They referred to disappointment with unintended pregnancy as musiba (calamity), and zomba (letdown). Negative emotions, physical symptoms, delay in receiving antenatal care, post-partum depression and postpartum hemorrhage were reported by some. No effect on baby weight, breast feeding and post partum complications were reported. Participants did not know about emergency contraceptives and preconception care.

Interpretation: The social context of Palestinian women seems to determine pregnancy trends rather than educational level, employment status, availability and accessibility of family planning services. These results can be used to formulate a framework to study unintended pregnancy among Palestinian women as an important part of reproductive health services.

Word Count: 300

Effect of both male and female lifestyle and biologic factors on fecundability among newly married couples in Palestine.

Yaser Younes Salman Issa, Occupational Epidemiology and Biological Research Lab, Department of Biology, Hebron University, Palestine, Markku Sallmén (PhD), Centre of Expertise for Health and Work Ability, Finnish Institute of Occupational Health, Helsinki, Finland, Khaldoun Nijem (PhD), Occupational Epidemiology and Biological Research Lab, Faculty of Science and Technology, Hebron University, Hebron, Palestine, Espen Bjertness (Prof. PhD) Section for Preventive Medicine and Epidemiology, Department of Community Medicine, Institute of Health and Society, University of Oslo, Tibet University Medical College, Lhasa, Tibet, People's Republic of China, Petter Kristensen (Prof. PhD), Department of Occupational Medicine and Epidemiology, National Institute of Occupational Health, Oslo, Norway.

Background: Lifestyle factors and occupational and environmental factors have been suggested to affect fecundability of both genders. In this study we investigated the potential effects of lifestyle and biologic factors on couple fecundability.

Methods : Information on time to pregnancy was collected prospectively by following up the all newly married couples (n=331) until the woman got pregnant or at a maximum 12 months during the period 2005-2007 in Hebron Governorate. Information on lifestyle and biologic factors were collected retrospectively by using a constructed questionnaire. We estimated adjusted fecundability density ratios (aFDR) with discrete proportional hazards regression.

Findings: Female age ≥ 25 years was associated with low fecundability (aFDR 0.69; 95% CI 0.46–1.04) Male age 25-29 years was associated with increased fecundability (aFDR 1.26; 95% CI 0.93–1.69), aFDR for age ≥ 30 years was 1.15 (95% CI 0.80–1.66). Reference category for both genders was 20-24 years. Fecundability among educated males (>12 years) was low (aFDR 0.59; 95% CI 0.42–0.82). We found no effect of education among females. High coffee intake was associated with low fecundability in both genders. Frequent intercourse (>7 times per week) was associated with high fecundability (aFDR 1.30; 95% CI 0.96–1.77). Both younger and older age at menarche (11-12 and 16-18 years) were associated with reduced fecundability (aFDR 0.60; 95% CI 0.39–0.92, and 0.67; 95% CI 0.39–1.14 respectively).

Interpretation: Some of the results for lifestyle factors, including coffee intake and education, were in line with previous studies. Results of biologic factors including age, age at menarche, menstrual regularity, and coital frequency were also in line with previous studies. Age showed no clear pattern although there was a tendency toward high fecundability for males past the mid-twenties.

Word Count: 283

Needs Assessment for a Reproductive Health Registry – Towards a harmonized Reproductive Health Registry (hRHR) in Palestine – a Qualitative Study.

Buthaina K. Ghanem WHO, Palestinian National Institute of Public Health Project, Ramallah, Palestine, Rand Salman, MD, WHO, Palestinian National Institute of Public Health Project, Ramallah, Palestine Bjorn G. Iversen, PhD MD, WHO, Palestinian National Institute of Public Health Project, Ramallah, Palestine.

Background: Reducing maternal and child mortality are among the UN Millennium Development Goals. The 2010 estimated maternal mortality ratio (MMR) for Palestine was 64 per 100000 live births. WHO has developed a global initiative called harmonized Reproductive Health Registry (hRHR) to improve data quality and to reduce maternal and infant mortality. The aim of our study was to conduct a needs assessment to identify the strengths, opportunities and gaps before developing a strategic action-plan.

Methods: A qualitative needs assessment tool is developed with chapters on legal issues, essential indicators; minimum dataset; data collection; dissemination and use. Through in depth interviews with five senior managers at the Ministry of Health, NAT was adapted to the Palestinian context. A one-day workshop with 20 participants from MoH stakeholder institutions completed the NAT.

Findings: The needs assessment shows substantial data collection in antenatal, perinatal and postnatal care in local health facilities. However, very limited information is exchanged between primary and secondary care; jeopardising the continuum of care, and data is not utilised to benefit services provided or for public health purposes. Reporting to the national level consists mostly of aggregated, monthly reports of health status and activities published annually, and data is not used for management, improving quality of care, or feedback to health care providers. There is no legislation on health data confidentiality; and no national agreement on essential interventions, indicators or a minimum dataset to be collected, although many of the interventions practiced are in line with the recommended WHO essential interventions.

Interpretation: The data collected should be kept at a necessary minimum and be selected according to evidence-based essential interventions. One way of improving the system is to introduce a comprehensive computerised hRHR in a consensus-driven process with the major stakeholders in maternal-child health.

Word Count: 293

The effect of an antenatal family planning counseling intervention led by community health workers (CHWs) on postpartum contraceptive uptake in the West Bank.

Rasha Khoury MD MPH Fellow in Family Planning and Global Women's Health Harvard Medical School, Boston MA. Alaa Abed MD Resident Ramallah Hospital Palestine, Rula Ghandour MPH Birzeit University, Palestine, Sahar Said PMRS Community Health, Haya Arrar PMRS Community Health,

Abstract: In the West Bank, 27% of birth intervals are under 18 months and 40% of pregnancies are reportedly mistimed or unwanted. While 40% of women surveyed have used a modern contraceptive method, they are predominantly older and have completed desired childbearing. The extended postpartum period likely represents a time of under-addressed contraceptive need for Palestinian women.

To explore whether a CHW-led family planning counseling intervention during antenatal care can increase contraceptive uptake among postpartum women in the West Bank.

This is a quasi-experimental cluster randomized trial. Our primary outcome is the proportion of women using a contraceptive method at 6 months postpartum after the intervention compared to the group receiving usual care. Pregnant women in the third trimester are being enrolled at two public maternal child health clinics randomly assigned to intervention or usual care (Al-Bireh and Ramallah Ministry of Health clinics). To detect a minimum contraceptive use difference of 25% with 80% power and a two-sided alpha of 0.05, we will recruit 158 women, 79 per group. We are collecting a baseline survey of knowledge of and attitudes towards birth spacing and family planning methods. The intervention consists of: 1) a 45-minute group educational session on effective and available contraceptive methods (including lactational amenorrhea) led by CHWs, 2) posters in the clinic depicting these methods and 3) pictorial material for each woman to take home to aid discussions with family and other co-decision makers. Women will then be interviewed by phone at 3 and 6 months postpartum to assess contraceptive uptake.

Enrollment is ongoing and we expect to have baseline and 3-month follow-up results by March 2014.

Word count 269

Energy drink consumption among Arab American University: Prevalence, patterns, and side effects.

Elias Dabeet Arab American University-Jenin-Palestine

Background: Energy drink consumption has continued to gain in popularity since the 1997 debut of Red Bull. Energy drinks are freely available at markets and shops on the university campus without regulation or proper education regarding its side effects. Although energy drinks are targeted to young adult consumers, there has been little research regarding energy drink consumption patterns among university students in Palestine.

Objectives: To assess the prevalence of energy drink consumption, consumption patterns, reasons, and its reported side effects among students at Arab American University (AAUJ) in Palestine.

Methods: A cross-sectional study was conducted at AAUJ in Spring 2012. A stratified sample of size 351 students (144 males, 207 females) completed a self-administered questionnaire that collected information about consumption of energy drinks, and its side effects.

Results: Out of the 351 participants, 28.8% (n=101) reported ever using energy drinks and 75% of those reported consuming at least one energy drink per day, with 60% (n=61) being males. Males consume significantly more energy drinks than females ($p < 0.001$). The students consumed energy drinks to help them stay awake (70.2%) and focus during their studies (50.5%). Other reasons given include, enjoy the taste (61.2%), just to be like friends (11.4%), remove depression (25.0%), remove tension (22.3%), energy boost for sports (43.1%), or relieve headache (19.7%). Insomnia are the most common side effect in our sample (51.0%), followed by diuresis (47%), heart palpitations (37.0%), headache (17.0%), overweight (16.0%), tension (14.0%) and sleepiness (11.0%).

Interpretation: Energy drinks consumption is common practice among AAUJ students and the main reason cited for consumption is the need for energy during general activities. Approximately 70% of the consumers had some side effect after consumption. We recommend the need to create public awareness about energy drinks.

Word count: 290

Stress among Nurses Working at highly dependent and Oncology departments

Natali Hussein Daher Hermas BA in Nursing from Bethlehem University, MPH at Birzeit University, Staff Nurse at Al-Makassed Hospital, Jerusalem, Palestine Sharihan Jobran, Ahmad Amreih, Afaf Ibrahim.

Background: Many researches reflect the suffering of the critical and cancer patients, however, this study aims to investigate causes of stress and its physiological and psychological impacts among highly dependent and oncology nurses in hopes of informing future policies and interventions.

Methods: Data were collected in 2010 from 150 nurses on different highly dependent and oncology departments at 5 private and 2 governmental hospitals in Bethlehem, Jerusalem and Hebron using a questionnaire of 3 sections developed for this study. The first section included sociodemographic characteristics beside workplace "Hospital", the type of unit and others. The second section included stress causes with a cronbach's alpha of 0.800 while the third one involved stress impacts with a cronbach's alpha of 0.892. Analysis of variance and T- tests were used to analyze these data.

Findings: Three major sources of stress were identified: Absence of supervisor's appreciation to nurse's work, limited interaction with the outward, and Workload. While the main impacts of stress were: feeling guilty if failed to do the assigned duties, Feeling of exhaustion even after sleep and rest for adequate time and being constantly under strain. Also the results showed that stress causes were associated with the hospital at which nurses work and those whose monthly income is less than the Palestinian family average income were more subjected to stress causes and impacts than others. Beside the monthly income, the type of unit had significant associations with stress impacts.

Interpretation: The results indicate that nurses of highly dependent and oncology departments face many stressors which leave their impacts on their physical and psychological well-being. The Differences found among the hospitals regarding stress causes suggest that other factors need to be examined in future studies as the managerial process practiced which affect the overall environment of the hospital and the clarity of nurses roles.

Word Count: 302

Occupational Safety of Health-Care Workers who involved in Medical Waste Handling in Gaza Strip: Palestine.

Amal Sarsour The Palestinian Health and Research Council, El Naser street – ophthalmic hospital square, Gaza City Palestine, Aaeid Ayoub Environment Quality Authority- Gaza, Palestine, Isam Shahrour Laboratoire de Génie Civil et geo-Environment (LGCgE), Université Lille1, 59650 Villeneuve d'Ascq, France.

Background: Proper healthcare wastes management practice and precautions is crucial to avoid occupational and environmental problems among health care workers. The present study aims to assess the occupational safety of health-care workers involved in medical waste handling in public and private hospitals in Gaza Strip-Palestine.

Methods: A cross sectional study was employed and simple random sampling technique were used to distribute a semi structured questionnaire among 164 health workers at two hospitals in Gaza Strip with 100 respondents from governmental hospital and 64 respondents from private hospital. Data were entered and analyzed using SPSS version 16.

Findings: The results revealed that, the occupational safety amongst healthcare workers have not received sufficient concern, that meanwhile 70% of respondents wear special cloths at work, but 61% of all workers in both hospitals had complained that their special clothes were not really protective, that about 81% of the private hospital participants subjected to needles after wearing these clothes, while 62% of the governmental facility has the same complaint. From the other hands, 69% and 59% of private and the governmental hospitals workers respectively exposed to injury other than needles during work. Also, 53% of respondents with minor differences between both hospitals complained that their employer did not pay attention towards their health, that 79% of respondents have been tested before employing but about 68% of them did not receive any health checks or vaccinated after they employed.

Interpretation: Poor implementation of protective measures as well as the deficiency in implementing training courses about healthcare waste management and required procedures of proper medical waste management and the hazards associated with it, could be attributable to the low level of occupational safety amongst the health care workers in Gaza Strip's hospitals.

Occupational stress among hospital nurses in Gaza-Palestine.

Dr Bashir Ibrahim Alhajjar, Faculty of Nursing, The Islamic University of Gaza.

Background: Occupational stress in nursing is common worldwide; with rates of 9.20%-68.0% of nurses suffering from stress being reported in the worldwide literature. The purpose of this study was to determine the prevalence of occupational stress among hospital nurses in Gaza-Palestine and explore possible causal occupational stressors.

Method: A quantitative survey design was employed, with a self-administered questionnaire pack being the data collection technique. Data were collected on psychological distress (GHQ-12), sources of stress (NSS), and demographic variables. Open questions were used to enable participants to describe their experiences of stressful events and enable the researcher to collect more in-depth information.

Sample: The study population is the entire cohort of nurses who were working in the 16 hospitals in Gaza (1801 nurses; 985 males). Because of difficulties in access, only 1500 were able to receive questionnaire packs and 1133 were completed and returned (response rate=75.53%).

Results: The results of this study revealed a high prevalence of psychological distress (63%, GHQ-12 cut-off=6). The most severe occupational stressors were: "Not enough staff to adequately cover the unit" and "Lack of drugs and equipment required for nursing care". The most frequent occupational stressors were: "Not enough staff to adequately cover the unit", "Watching a patient suffer". As subscales, "Workload" and "Death and dying" were the most frequent and severe occupational stressors.

Psychological distress was significantly associated with gender, age, experience, night shifts and extra-work. Severity of occupational stressors was significantly associated with age, night shifts, specialisation and qualifications. Frequency of occupational stressors was significantly associated with hospital type, experience specialisation and night shifts.

Conclusion: Being a nurse in Gaza hospitals appears to be a stressful experience. More attention should be focused to develop an effective programme to reduce stress levels among Palestinian nurses in Gaza.

Word Count:292

Sanitary conditions of swimming pools in Gaza Strip (2010 – 2013): Palestine.

Ahmed H. Hilles Environmnet Quality Authority, Palestine , Amal Sarsour The Palestinian Health and Research Council, Gaza Strip, Palestine , Ayman Ramlawi, Water Control Department, Ministry of Health, Palestine

Background: Approximately 1.7 million inhabitants of 378 km² area of Gaza Strip don't have enough recreational areas, except Gaza beach which suffers from sewage pollution as well as some public and private swimming pools which can be considered as merely recreational places. The main objective of this study is to assess the microbiological quality of swimming pools water in Gaza strip to assure its health safety for swimmers.

Methods: Sampling and analysis were conducted by the Ministry of Health over a period of about four years (2010-2013). Samples were collected from seven central swimming pools in Gaza Strip periodically and examined for Total Coliforms and Faecal Coliforms. In addition, *Staphylococcus aureus*, *Faecal Streptococcus* as well as *Pseudomonas aeruginosa* were isolated from the swimming pools samples with different percentages. Percentages of microbial contamination, Concentration of free chlorine and pH level were examined in the studied swimming pools and compared with the international standards and the annual trends were demonstrated.

Findings: The results shown that, about 75% of the recorded data regarding pH level are unacceptable, while 100% of the recorded data about the concentration of free chlorine within the swimming pools are unacceptable, about 57% of the collected samples were contaminated by Total Coliforms, about 39% of the collected samples were contaminated by Faecal Coliforms, about 46% of the collected samples were contaminated by *Staphylococcus aureus*, about 21% of the collected samples were contaminated by *Pseudomonas aeruginosa* and about 18% of the collected samples were contaminated by *Faecal streptococci*. The annual trends show increase in percentage of contamination to be the worst during the year 2013.

Interpretation: The results of this study suggest that poor quality of swimming pools water is due to inadequate follow up and disinfection processes, especially when high numbers of people led to overuse of the pools which increase the liability of faecal contamination and subsequently health hazards are expected. Therefore, proper intensive surveillance and water chlorination is needed periodically.

Key words: Sanitary conditions, swimming pools, Gaza Strip, Palestine

Word Count: 323

Assessment of Patient Safety Culture in the Palestinian Hospital Pharmacies.

Wafa' Zaghari MSc, Motasem Hamdan PhD School of Public Health, Al-Quds University

Background: Evaluating safety culture, the safety related norms and behaviors, is increasingly receiving attention in patient safety improvement in health care settings. One of the most commonly used and rigorously validated tools to measure safety culture is the Safety Attitudes Questionnaire (SAQ).

Purpose: To assess patient safety culture in the Palestinian hospital pharmacies, and to assess the association of hospitals and respondents characteristics with patient safety culture.

Method: A cross-sectional design was used. The English version of the SAQ was translated and adapted to the Palestinian context. The survey was carried out in (28) Palestinian hospitals.

Results: 73 persons participated in the study, response rate was 68.8%. Females were 66.7%, 51% were pharmacist or clinical pharmacist, and 84.7% were with experience ≥ 5 years in profession. Two SAQ domains, job satisfaction and working conditions, were identified as areas of strength and received $\geq 75\%$ of positive responses.

Patient safety level was graded as "accepted" by (50%) of the respondents and none gave their pharmacy a "Poor" or "Failing" grade. Event reporting was very low, (66%) of the respondents didn't report any event in the past year.

Significant associations were only found between the overall safety score and hospital ownership in favor for the private and NGO hospitals ($P < 0.05$).

Conclusion: Safety climate results denote need for interventions to improve patient safety in hospital pharmacies. The type of needed intervention varies from one hospital to another.

Word Count:233

Attitudes of physicians and nurses towards incident reporting in Palestinian governmental hospitals.

Dr. Anan Rashed MPH, Motasem Hamdan PhD, Al-Quds University, School of Public Health, Jerusalem.

Background: Medical errors, incidents, or adverse events in health care delivery are global public health problems. Incident reporting systems provides the opportunity to learn from errors and develop strategies to ensure that incidents don't happen again. Research showed reluctance of health professionals to report incidents in Palestinian settings. This study aimed to assess the attitudes and perceptions of physicians and nurses towards incident reporting in Palestinian public hospitals.

Methods: A cross-sectional design and a self-administered questionnaire was used in the study. The study was conducted in all the 11 public hospitals in the West Bank. A total of 584 physicians and nurses participated in the study. The response rate was (83.5%).

Findings: About half of the participants (52.6%) are not aware of any incident reporting system in public hospitals, 59.6% of them didn't report any event in the past year. Nurses (34.5%) reported fewer incidents in comparison with physicians (52.3%) ($P < 0.001$). Participants mainly (70.7%) fear of punitive actions of the employer, 61.8% to fear of other negative consequences. Getting help to patients was the main motivation to report incidents (93%). With regard to participant views of future reporting system, 77.8% would support a written reporting, 72.7% mandatory, 52.7% reporter is identified, 80.3% used to learn from mistakes, 65.5% report all types of errors, and 57.6% support reporting to the head of departments. In some of these respects significant differences between nurses and physicians were observed ($P < 0.05$).

Interpretations: A prevalent punitive culture at public hospital is the main barrier for reporting incidents. The MoH should build patient safety culture and create a climate of open communication and continuous learning from errors. The willingness of the health professionals to report incidents to immediate supervisors provides an opportunity to establishing a formal structure for reporting incidents in public hospitals.

Word Count: 296

Management of placenta accreta at Al-Makassed Hospital – Palestinian experience: a retrospective study.

Saadeh S. Jaber, Makassed hospital, East Jerusalem, Al Quds medical school, East Jerusalem, Palestine, Husni Samarah (MD) Makassed hospital, East Jerusalem, Al Quds medical school, East Jerusalem, Palestine, Bassam Al-Akhdar (MD) Makassed hospital, East Jerusalem, Al Quds medical school, East Jerusalem, Palestine, Ahmed Al- Sarahna (MD) Makassed hospital, East Jerusalem, Hiba Fakhoury (MD) Makassed hospital, East Jerusalem.

Back ground: Placenta accreta (PA) remains one of the most fearful conditions in obstetrics and is associated with high maternal and perinatal mortality and morbidity. The incidence of PA has increased and this seems to parallel the increasing cesarean delivery (CS) rate. High fertility rate of 4.6/woman among Palestinians coupled with high cesarean section rate of 15% is expected to result in high incidence of PA.

Al-Makassed hospital is one of the main tertiary hospitals in Palestine. There are about 2500 delivery/year and most of them are high risk cases. Al-Makassed hospital has a clear policy for managing PA . This is composed of peripartum preparation: early admission, counseling for CS Hystrectomy, preparation of blood product and ICU. And intraoperative approach: vertical skin incision, delivery of the baby and hysterectomy with placenta in. This study was conducted to audit and analyze PA cases between 2007-2013, their outcome and management at Al-Makassed hospital.

Methods: Retrospective analysis of medical files for all PA cases between 2007 and 2013 was done. Information about hospital incidence, antenatal diagnosis, peri-partum preparations, intra-partum approach and final maternal outcomes were obtained. SPSS program was used for data analysis.

Findings: Fifty one PA cases were identified. The hospital incidence in 2007, 2008, 2009, 2010, 2011, 2012 and 2013 was: 2, 1, 3, 2, 2, 6 and 6 per 1000 respectively. The mortality was zero. All cases were diagnosed antenatally.

The following morbidities were reported in the 51 PA cases: 1 ureter injury, 2 reopening due to bleeding, 7 ovarian oophorectomy and 10 bladder injury cases.

Interpretation: The findings showed no mortality, the morbidity was part of surgical approach due to PA trophoblastic invasion. The policy at Makassed can be implemented in the rest of the Palestinian hospitals.

Word Count: 288

Disparities in health seeking behaviors and out of pocket payments in the Gaza Strip in 2013: Results from a households survey.

Majdi Mohammed Khalil Ashour, United Nations Relief and Work Agency in the Near East (UNRWA) Gaza.

Background: Different population groups in Gaza Strip use the services of a pluralistic health system and spend part of their income on health. Nonetheless, little is known about disparities between them in seeking health care and paying for it.

Methods: A survey with a random sample of 760 households was undertaken in July 2013 in the Gaza Strip, with structured interviews to inquire about health-seeking behavior of household members and their out of pocket payments (OOPP). χ^2 tests were done to compare difference between grouped variables.

Findings: The mean of OOPP was 29.27% of households income. The health services used for acute illnesses consumed 41.9% of OOPP.

209 (27.5%) households spent more than average OOPP. Spending above or lower than the average OOPP differed among households by the head employment status, having a chronic disease patient, and the income quintiles (All $P < 0.0001$), where 154 (42.4%) out of 363 households with lowest income spent more than the average OOPP.

Out of 5192 households members, 425 (8.2%) encountered an acute illness within 2 weeks prior to interviews, of whom 371 (87.3%) sought care. The initially chosen provider of health care differed according to refugee status ($P < 0.0001$), government health insurance coverage ($P = 0.046$), having a chronic disease ($P < 0.0001$), age group ($P = 0.031$) and the income quintiles ($P < 0.0001$), where the poorest chose private providers less than others.

68 (18.3%) have sought care of a second provider of health services. 34(50%) of whom chose private providers.

Word Count:245

Utilization of Antihypertensive Medications Among the UNRWA Palestinian Refugee Population in Jordan

Rawan Saadeh, United Nations Relief and Works Agency (UNRWA), Amman, Jordan
Dima M Qato, University of Illinois, Chicago, Illinois, Akhiro Seita
United Nations Relief and Works Agency (UNRWA)

Background: The United Nations Relief and Works Agency (UNRWA) has been treating an increasing number of patients with hypertension in Jordan. There were approximately 58 thousand patients being managed for their hypertension in 2012. While UNRWA introduced standard treatment guidelines (STGs) in 2009, there is limited information on the types of antihypertensives used prior and following the implementation of these STGs. The purpose of this study is to describe trends in the utilization of antihypertensive medications in the UNRWA Palestinian refugee population in Jordan between 2008 and 2012.

Methods: We analyzed aggregate consumption data on antihypertensive medications derived from the United Nations Relief and Works Agency (UNRWA) pharmacy records between 2008 and 2012. Antihypertensives were aggregated and utilization was calculated for antihypertensives overall and for specific types of antihypertensive medications (e.g. β -blockers, diuretics). We used the WHO defined daily dose (DDD) methodology, often used to evaluate drug utilization patterns using aggregate data, to calculate utilization defined as DDDs per 100 persons with hypertension.

Findings: Total antihypertensive utilization has only marginally increased (3.4%) among the Palestinian refugee population with hypertension in Amman between 2008 and 2012. In 2012, UNRWA patients with hypertension utilized 2.5 antihypertensives daily (253 DDDs/100 hypertensive patients). However, there is significant variation in utilization patterns by type of antihypertensive medication. For example, while the use of ACE-Inhibitors has declined by 25% (-8.3 DDDs), there was a substantial increase (>500%) in the use of diuretics (+39.1 DDDs) and <1% change in the use of β -blockers (+1.1 DDDs).

Interpretation: These findings suggest that STGs implemented in 2009 in the UNRWA health department to promote the use of diuretics were effective in modifying utilization patterns, and improving the cost-effectiveness and quality of hypertension management. Further research on patient adherence to antihypertensive medications and associated health outcomes is needed.

Word Count: 295

Knowledge, Attitude, and Practices among Female Patients MOH Clinics in Ramallah, Jenin and Hebron Districts.

Kifah Bani Odeh, Al-Quds University Public Health school Health Management and Policy, Dr. Asma Imam, Public Health school Health Management and Policy.

Background: Breast cancer is still viewed as a lethal factor among all women worldwide. Palestine, MOH (2012) annual report indicated that breast cancer occupied first among all types of cancer cases and is considered as the highest among females, mainly between the ages of 20-59. Therefore, PMOH applied a national screening policy and other measurements on the ground in order to detect this disease at an early stage. However, there is lack of studies that pay attention to women's knowledge, attitude and practice toward breast cancer and screening tests in Palestine.

Methods: A cross-sectional design, in which quantitative and qualitative methods of data collection was used in this study; the quantitative technique composed of interviewer administrative structural questionnaire, with 341 randomly selected women at 26 MOH clinics in four WB governances in 2013, while, focus group discussions were utilized in the qualitative method.

Findings: (81.8%) of participants considered breast cancer as a prevalent cancer type among Palestinian women. The main risk factors reported among participants: Smoking (77.1%), age (69.8%) and genetics (65.9%). Only (21.6%) of the respondents monthly performed BSE in the past 12 months. There was a statistically significant relationship between knowledge of breast cancer screening tests and level of education, BSE ($P < .0021$), CBE ($P < .0384$). There was a statistically significant relationship between practicing BSE and educational level; ($P < .0258$). The qualitative results showed that breast cancer is still a taboo subject driven by fear. Fear and anxiety drive women away from screening tests.

Conclusion: Palestinian women have a moderate level of knowledge about risk factors of breast cancer, and they have a positive attitude towards the importance of the screening tests as an early detection method, on the other hand, they have poor practice of the breast cancer screening tests.

Word Count: 290

Client's Centeredness of the Governmental Primary Health Care services in the Gaza Strip.

Huda H. Anan, BS.c. Pharmacy, Master of Public Health Al Quds University, Bassam Abu Hamad, PhD Health Management Al Quds University.

Background: Client-centered PHC services are designed and provided in congruence with clients' needs and guarantee actual involvement of clients in the processes related to health care. This study assessed the extent to which the governmental PHC services in the Gaza Strip are client-centered from the clients' perspectives.

Methodology: The study is quantitative analytic cross-sectional. Face to face interviews for 300 randomly selected clients exiting from 10 randomly selected PHC clinics (from October to December 2010) were conducted coincided with gathering general information about the PHC facilities. Reliability consistency test for the study questions was high (Cronbach's Alpha was 0.9).

Key findings: Clients' perceptions were good regarding physical, financial and information accessibility. Satisfaction with the delivery of health care services such as; waiting time, time spent with health care providers, communication, respect and quality of basic amenities was good.

There were serious gaps in the dispensing, labeling and the availability of drugs. Clients were not adequately involved in planning and evaluating health care services. The most important perceived factors that reflect quality health care services were the availability of drugs (67.3%), being treated with respect by the health staff (46.5%) followed by being cured (34.6%). Respondents from level two and level three clinics, southern governorates clinics and clinics that established local community committees elicited higher scores than their counterparts from other clinics with statistically significant differences ($P < 0.05$) between these groups.

Interpretation: The study reflected the importance of appropriate interaction between health care providers and clients and its positive impact on clients perspectives about the PHC services. Enhancing client centeredness of the PHC services could be done through increasing clients awareness about their basic health rights, promoting cooperation with clinics and their communities and increasing clients involvement in planning and evaluating health care services.

Word Count: 293

Drug prescription pattern at UNRWA clinics in Jordan

Dr.Ali Odatallah, Dr.Ali Khader, MD ,Dr. Amjad Al Shdaifat, MD,FM, Dr.Basam Khnouf,MD, Dr.Anwar Al-thaher, MD, Bali Samer, BSC, Dr.Ishtaiwi Abuzayed,MD. UNRWA Jordan Family Medicine Program Coordinator, Hashemite University, Jordan.

Background: Knowledge about drug utilization has clinical, economic and educational values in medical practice. This study aimed to assess the pattern of drug prescription at UNRWA clinics, and physician's compliance with UNRWA guidelines.

Methods: Five health centers in Jordan were selected according to drug expenditure/medical consultation. 500 medical visits were selected randomly for analysis.

A pre-structured questionnaire, completed by the same researcher, covering all drug categories present at UNRWA clinics.

We analyzed top and bottom 2 health centers and one with average expenditure. Amman new camp HC was the highest with 3.12 dollars per prescription while Husun HC was the lowest with 1.43 dollars.

Analyses was done using Access software package.

Results: about 44% of visits were made to non-communicable disease clinic (NCD), 35% to outpatient clinic, 12% for maternal health and 9% for child care.

51% of hypertensive patients were receiving enalapril and atenolol, and 90% were receiving at least one of them. 66% of non communicable diseases received aspirin,

Upper respiratory tract infections treated at Amman New Camp Clinic as following: 50% with antibiotics alone, 6% of patients with antibiotic and antihistamine, and 44% with antihistamine only. While at Suf health center 35% were treated with antibiotics alone, 5% of patients with antibiotic and antihistamine, and 61% with antihistamine only.

Interpretation: Analysis of study revealed clearly that most doctors are committed to UNRWA guidelines for treatment of patients and that there is stereotyping of prescription pattern.

Centers with higher and lower expenditure have similar patterns of prescription but with a higher percentage of NCD patient's at centers with higher expenditure which justify the increase of expenditure at these centers.

Word Count:271

Barriers to utilization of oncology health care services by cancer patients in Gaza Strip, Palestine: A qualitative study.

Nasser Ibrahim Abu-El-Noor, Ph.D in Health Care Policy Assistant professor College of Nursing, Islamic University of Gaza, Mysoon Khalil Abu-El-Noor Ph.D in Health Care Policy Assistant professor College of Nursing, Islamic University of Gaza, Yousef Ibrahim Aljeesh Ph.D in Public Health Associate Professor College of Nursing, Islamic University of Gaza.

Cancer is one of the most common diseases in Palestine and it was the second leading cause of death in 2012, after cardiovascular diseases. Deaths related to cancer accounted for 10.3% of total death cases in 2007 occurred in West Bank (no numbers available about Gaza Strip). The percentage climbed up to 13.6% in 2012. The use of different treatment options helped many patients who were diagnosed with cancer to get cured or to live for longer periods of time. Unfortunately, the prevailing unique situation in Gaza Strip does not allow many cancer patients to fully utilize available health services and benefit from available treatment options.

The purpose of this study was to explore the barriers to utilize health care services as perceived by cancer survivors who live in Gaza Strip.

Methods: A qualitative design (with a semi-structured interview) was used in this study. A total of 42 patients, 20 males and 22 females, who were diagnosed with several types of cancer and were treated at one of the two major hospitals that provide oncology care in Gaza Strip, participated in the study.

Results: Participant reported several barriers to health care. These barriers were categorized under five major categories: 1) barriers due to unavailability, 2) organizational barriers, 3) socioeconomic barriers, and 4) barriers related directly to the blockage imposed on Gaza Strip. Within each category several subcategories emerged.

Interpretations: Results of this study revealed several barrier that hindered cancer patients to fully utilize available health care services. Some of these barriers could be manipulated. These results could serve to recommend for several health policy changes designated to eliminate barriers to health care and to improve utilization of provided services to cancer patients which will be reflected positively on their prognosis, health outcome, and their quality of life.

Word Count: 297

Challenges of living in the Jerusalem Old City: A collaborative qualitative study

Hiyam Ellayan Al-Saraya Center for Community Services, Jerusalem, Amro, Zeina (MSc), Balsam, Corey (MA), Mitwalli, Suzan (MPH), Institute of Community and Public Health, Birzeit University Rabaia, Yoke (MPH),

Background: Palestinians in the Old City of Jerusalem face myriad challenges which are frequently overlooked. An ongoing collaboration between the Old City-based al-Saraya Center for Community Services and Birzeit University has sought to develop a greater understanding of the challenges faced by this vulnerable population and to suggest ways in which it can be better supported.

Methodology: A qualitative study involved background research using online sources, participant observation, focus groups and group interviews with staff, volunteers and participants of al-Saraya Center. Discussion and inquiry focused on the lived experiences of Palestinians in the Old City in addition to al-Saraya Center's programmatic work. Notes and transcripts were coded and analyzed using Atlas-ti software.

Findings: The results provided a far more profound understanding of the challenges faced by Palestinians in the Old City than can be found in the existing literature. These findings can be divided into four main themes: identity (confusion about the identity, especially for children, and the affect on their self esteem); residency (difficulties obtaining permits for renovations, threats of Jerusalem residency revocation, challenges living part-time in Jerusalem when a spouse has West Bank residency, high cost of living); living and study space (cramped and deteriorating housing, lack of leisure and study space, inadequate school services and infrastructure); and threats to children's rights (harassment by Israeli settlers, punitive measures by Israeli police). Results furthermore revealed the critical importance of al-Saraya Center's programming for beneficiaries, volunteers and staff.

Interpretation: The findings reinforce the need to support centers such as al-Saraya in the maintenance and expansion of both the psychosocial support and advocacy components of their work. With these aims in mind, the findings of this study have been used to develop a needs-assessment survey tailored specifically to the challenges of living in the Jerusalem Old City.

Word Count: 296

Life Behind the Wall: Voices of Women from the Seam Zone.

Salwa Duaibis The Women's Centre for Legal Aid and Counselling (WCLAC), Hannah Rought-Brooks, The Women's Centre for Legal Aid and Counselling, Doaa Hammoudeh, Institute of Community and Public Health, Birzeit University,

Background: Much has been written about the legal and political implications of Israel's construction of a Wall inside Palestinian territory. Less is known about the impact the Wall has on the daily lives of women caged in the Seam Zone; an area between the Wall and the Green Line. This initial qualitative investigation sheds some light on the common problems and restrictions suffered by Palestinian women living in this area in the fields of adequate living conditions, access to natural and common resources, access to health and education and the impact on livelihoods and family life.

Methods: In-depth qualitative interviews with 15 women were conducted utilizing a purposeful selection process to include a range of locations and experiences. The interview schedule was developed locally and framed in the context of the relevant legal framework. Transcripts were examined for recurring themes.

Findings: Most women reported overcrowded housing conditions, economic hardships, and social isolation rendering traditional ways of life almost impossible. Access to education was restricted and women described journeys to schools as tiring and circuitous. Almost all noted severe hardships in accessing healthcare for themselves, their children and the elderly. Some maintained that this led to neglect and delay in seeking medical attention, with some narrating personal experiences of seemingly imminent death as a result. Many women reported difficulty in accessing pre and post-natal services. Almost all women noted feelings of severe distress and loneliness.

Interpretation: This initial investigation attests to a dire humanitarian situation of a particularly vulnerable group, raising serious concerns about the impact of impediments to accessing critical services on the quality of life of women living under a prolonged occupation where violations of international humanitarian law and human rights law have become endemic.

Word Count: 286

Living in limbo and negotiating boundaries: Insights on the quality of life of families living in East Jerusalem's Kafr 'Aqab urban sprawl.

Doaa Hammoudeh Institute of Community and Public Health (ICPH), Birzeit University (BZU) Layaly Hamayel Institute of Community and Public Health (ICPH), Birzeit University (BZU), Professor Rita Giacaman, Supervisor

Background: Since 1967, about 14,000 Palestinians had their Jerusalem-identity-cards (IDs) revoked by Israel; thousands at risk of losing their Jerusalem residency rights struggle to maintain residency. This study explores the peculiar situation of Kafr 'Aqab, situated at the crossroads of an Israeli military checkpoint, inside Israeli-defined greater Jerusalem, but physically dislocated outside the Separation Wall, allowing families with East Jerusalem and West Bank IDs to live together. We investigate the impact of disrupted family-life and insecurity on health and wellbeing.

Methods: In-depth qualitative interviews with 20 women were conducted utilizing a locally-developed semi-structured interview schedule. Participants were selected through purposeful-convenience sampling to include socio-demographic and residency status variations. ICPH Research Ethics Committee granted ethical approval. Data was analyzed by reading and re-reading transcripts for recurring themes and sub-themes.

Finding: Residents of Kafr 'Aqab are exposed to various life-stressors, including anxiety resulting from legal and administrative battles to maintain residency; increased financial strains and economic exploitation; and the distress of relocating to areas with poorer living-conditions in order to maintain Jerusalem residency, while living with non-Jerusalem ID-carrying family. Most women reported strong feelings of insecurity and uncertainty about the future. Heightened by fear of local Israeli-employed investigators, and perceived increase in crime, some noted that they increasingly mistrusted newcomers and did not feel part of a community or integrated social fabric. Physical barriers (Qalandia-checkpoint and Separation wall) limit access to families and social support; and are obstacles to accessing healthcare services in Jerusalem. Most women reported detrimental environmental conditions (including filth, sewage, and water concerns) due to increased urban sprawl and inadequate access to municipality services, despite taxation.

Interpretation: The Kafr 'Aqab predicament attests to dismal conditions of a vulnerable group, ruled with ambiguity and uncertainty and existing within an already volatile context, thus raising concerns of the consequences on health and well-being of families living under prolonged occupation, colonization, subjection and political oppression.

Word Count: 313

Annex: Accepted Abstracts of Authors who declined attendance

Seroprevalence of Cytomegalovirus among pregnant women and hospitalized children in Palestine

Tahani Neirukh, Central Laboratory, Al-Makassed Islamic Charitable Hospital, East Jerusalem, Palestine
Ayda Qaisi, Central Laboratory, Al-Makassed Islamic Charitable Hospital, East Jerusalem, Palestine ,
Firas Dajani, Taghreed Nusseibeh, Sabri Baraghithi and Maysa Azzeh Central Laboratory, Al-Makassed
Islamic Charitable Hospital, Niveen Saleh, Areej Abu Rmaileh, Eman Abu Zahriyeh, Lina Qurei, MRC,
Virology Research Laboratory, Al-Quds University, Abu Dies, East Jerusalem, Palestine, Hatem
Khamash, Neonatal Department, Al-Makassed Islamic Charitable Hospital, East Jerusalem,
Palestine, Pediatric Department, School of Medicine, Al-Quds University, Abu Dies, East Jerusalem,
Palestine

Background: Human Cytomegalovirus (HCMV) is the most common cause of congenital infections. The maternal immune status plays a major role in the likelihood of congenital infection. The aim of this study is to shed light on the seroprevalence of HCMV in pregnant women, hospitalized children and newborns including cases of congenital infections in Palestine.

Methods: We analyzed HCMV IgG and IgM test results that had been ordered for pregnant women, hospitalized children and newborns in the years 2006-2012 at Al-Makassed Islamic Charitable Hospital (MICH) in East Jerusalem. Furthermore, we reviewed the medical charts of newborns and HCMV IgM-positive children.

Findings: HCMV IgG was positive in 96.6% of pregnant women, in 88% of hospitalized children and in 98.4% of hospitalized newborns. HCMV IgM was positive in 11.5% of pregnant women, in 11.7% of hospitalized children and in 2% of hospitalized newborns respectively. The HCMV avidity assay revealed that 95% of IgM-positive pregnant women had high avidity (>60%) indicating that most Palestinian women were undergoing a recurrent HCMV infection. Real time PCR on limited number of cases indicated that 62.5% of infants, mostly born to IgM-positive mothers and 83.3% of HCMV IgM-positive children had detectable HCMV DNA in their urine. Out of the 249 newborns tested during this study period, four (1.6%) were subjected to Gancyclovir treatment because of symptomatic congenital HCMV infection.

Interpretation: This is the first report to provide an insight into HCMV seroprevalence in Palestine. Despite the high rate of seropositivity, the importance of HCMV testing during pregnancy should not be underestimated. A comprehensive study with a long term follow-up examination of offspring born to HCMV IgM-positive mothers would be required to provide estimates of an accurate percentage of symptomatic congenital HCMV infection in Palestine.

Word Count: 286

Hepatitis B infection in Palestine, facts and molecular analysis.

Maysa Azzeh Head, Virology Research Laboratory Director, medical research center, Alquds University Abu-Dies, East Jerusalem, Palestine, Zakeih Abdelnabi, Niveen Saleh, Virology Research Laboratory, Medical Research Center, Al-Quds University, Abu Dies-East Jerusalem, Palestine, Sabri Baraghithi, Al-Makassed Islamic Charitable Hospital (MICH) Central Laboratory, East Jerusalem, Palestine, Dieter Glebe, Institute for Medical Virology, Justus-Liebig-University Giessen, Germany.

Background: HBV is the leading cause of chronic liver disease worldwide. There are no published data regarding the prevalence of active (i. e. acute or more probably chronic) HBV infection in Palestine. However, Palestine is considered an area of intermediate endemicity as part of the Middle East.

Methods: We analyzed HBsAg test results performed at the referral hospital in Palestine, Al-Makassed Islamic charity hospital (MICH) to determine an accurate prevalence of HBV infection in Palestine. Furthermore, we performed molecular analysis on two different genes of HBV virus isolated from 40 Palestinian patients to determine dominant subgenotype and further genetic specifications.

Findings: Between 2007 and April of 2012, 738 patients (2.02 %) out of 36,512 tested positive for HBsAg. This cohort is representative as patients from all over Palestine get admitted to MICH. The genotyping results of the S gene showed that HBV D1 was the most prominent subgenotype among Palestinians carrying HBV. Various mutations existed within the S gene including known escape mutations. Although all patients were treatment-naïve, with the exception of one, several mutations were found in the HBV polymerase gene, but none pointed to drug resistance.

Interpretation: The incidence rate of HBV infection in Palestine is indeed intermediate. Genotyping results are in agreement with regional studies. Mutation analysis however reveals a high mutation rate indicating a strong selection effect on HBV strains circulating in the studied Palestinian patients. The results presented here are a first step in establishing a genetic profile of pathogens circulating in Palestine.

Word Count: 248

Airway inflammation among female Palestinian hairdressers. A cross-sectional study

Maysaa Nemer, Section for Preventive Medicine and Epidemiology, Institute of Health and Society, University of Oslo, Oslo, Norway. Occupational Epidemiology and Biological Research Lab, Department of Biology, Hebron University, Hebron, Palestine

Background: Hairdressers are exposed to several potentially hazardous chemicals known to cause asthma and also permanently affect lung function. In a previous study in Hebron, Palestine we showed that female hairdressers had higher prevalence of reported asthma and respiratory symptoms than controls. Information about the nature of airway inflammation among hairdressers related to their airway symptoms is lacking. In the present study we wanted to examine airway inflammation in female hairdressers in Hebron compared to an unexposed control group.

Methods: We included a non-smoking subgroup of female hairdressers (n=30) aged 19-50 years, from a cohort of hairdressers previously studied. Also 30 non-smoking control subjects from the university were included, aged 18-48 years. Methods included a standardized questionnaire on respiratory symptoms, spirometry, measurements of exhaled NO and induced sputum samples.

Findings: Nine of the hairdressers (30%) reported wheezing versus six (20%) in the control group (p=0.33). Cough was reported by four hairdressers (14%) versus one (3%) controls (p=0.06). Three hairdressers (9%) reported doctor's diagnosed asthma versus none of the controls. Mean percent predicted (SD) FVC and FEV1 were 93% (SD=13.2) and 86% (SD=10.4) in the hairdressers while 99% (SD=12.5) and 98% (SD=11.6) in the controls, p=0.26 and p=0.003, respectively. Mean eNO was 20 ppb among the hairdressers versus 14 ppb among the controls (p=0.02).

Sputum analysis showed that hairdressers had a median number of 376 neutrophils/mg sputum (183-980 (25th to 75th percentiles)) (54% of total cells) while the controls had a median number of 162 neutrophils/mg sputum (96-258) (41% of total cells) (p=0.04). The number of eosinophils was low in both groups and below 1 % of the total number of cells.

Conclusions: Female hairdressers had higher prevalence of respiratory symptoms and asthma, significant lower FEV1 and higher eNO than unexposed controls. The hairdressers also had signs of neutrophilic airway inflammation.

Word Count: 300

The Palestinian fertility paradox: A ‘procreative contract’?

Sarah Memmi Center for Population and Development (IRD, INED, Paris Descartes) – Paris Descartes University – Sorbonne.

Background: Palestinian fertility remains among the highest in the world despite the educational level of women and the high access of contraceptive method. This research explains this counter-intuitive behaviour through an emic concept: a Palestinian “procreative contract”.

Methods: The research design takes a mixed methods approach, initially using data from the Palestinian PCBS/PAPFAM 2006 to assess among 4486 ever-married women (15-54) *i*) the level and determinants of fertility behavior contraceptive use and gender preference; *ii*) logistic regression to analyze the determinant of contraceptive use. Also, 45 in depth-interviews were conducted in 2010-2011 in West Bank with Palestinian (men and women) concerning their reproductive behavior.

Findings: Contraceptive use increases constantly with children’s number, to reach a stability zone at 4 children. However, there is a gap with sex of children: the likelihood of using a contraceptive method increases more when couples have a least one boy (OR=3,45 [2,48-4,49]) than one girl (OR=2,07 [1,45-2,96]). This gender gap is relevant for women from primary to secondary level of education and disappears for women with high educational level. But even women with high education prefer a large family (4.4 children) with a gender gap (2.4 boys vs 2.05 girls).

Interpretation: Family planning behaviors adopted in the Palestinian territories are part of a birth-spacing process. It still depends on a preference for large family size and preference for boys, even among the most educated women. Although the contraceptive behaviors of the most educated women do not seem affected by their gender preference, in another analysis I found that the most educated women are more likely to use prenatal sex selection (Memmi and Desgrées of Loû, in press). Thus, the Palestinian fertility paradox could be explained by what I call a “procreative contract” that couples, even the most educated-one, must complete having 4 children and more boys than girls.

Word Count: 303

Routine Health Information System in Palestine: Determinants and Performance

Yousef Mimi, Ayesha Alrifafi, Ewart Carson

Background: Routine health information system (RHIS) in Palestine does not store data at the case level but aggregates them at the facility level only. Additionally, establishment of multiple information databases in different Ministry of Health (MoH) departments causes incompatibility between the different databases and ineffective use of information.

This study examines the availability and the utilization of information in support of health care organization and delivery in Palestine which entailed an assessment of the current situation to identify determinants of the RHIS performance

Methods: The Palestinian Ministry of Health at the Ministry, District and Facility levels was the study setting while systems and staff operating at these three levels were the target population. Employing a purposive sampling method a total of 123 respondents participated in the study. Performance of Routine Information System Management (PRISM) Framework and its four tools package was used to assess the performance of RHIS at the Palestinian MoH. PRISM framework empirically tests the relationships among technical, behavioural and organisational determinants on HMIS process and performance.

Findings: In terms of RHIS Performance data quality; completeness, timeliness and accuracy were good at the ministry level. However, data completeness and accuracy at the districts were good while timeliness was immeasurable due to currently adopted procedures. At the facilities level, data completeness and data accuracy were acceptable only. Use of information was poor at all three levels of the ministry, districts and facilities. The displaying of updated data on mother's health, child health, facility utilization, and disease surveillance at the districts level and at the facilities level were poor. RHIS processes at the ministry HMIS level were good. However, they were poor at the two levels of district and facility.

Overall, technical and behavioural determinants fared poor at all three levels while organizational determinants at the ministry level were very good for RHIS governance and planning but were poor for supervision, training and finance.

Conclusion: These findings provide evidence on the need to establish national RHIS the utilization of which is compelling to all by law. Investing heavily and systematically in building relevant staff capacities and technical infrastructure to improve performance is a key element in this project.

Word Count:258

Israeli Settler Colonialism and the Palestinian Family

Sarah E. Ihmoud, Doctoral Student, Social Anthropology, UT Austin Palestinian American Research Center Fellow 2013-14

The right to a family as the basic social unit is fundamental to the health and security of any society. The fragmentation and dislocation of the Palestinian family has been a prominent feature of Israeli settler colonial violence, an ongoing project that ultimately seeks to eliminate the indigenous Palestinian presence. The state's investment in maintaining its Jewish character, presented in biopolitical terms of emergency, crisis, insecurity, and threat, increasingly implicate regulatory practices of the body and population. Based on ethnographic research, this paper analyzes the contemporary effects of the "Ban on Family Reunification" and the "Citizenship and Entry into Israel" Law on Palestinians disparately situated in '48 and the occupied territories. I argue that such policies seek to further fragment, dislocate and ultimately eliminate the Palestinian family and thus, the larger indigenous presence. I ask how the governance of intimate relations, the body and love is practiced in the Israeli settler colony in such a way that life and death, rights and recognition, land and other material resources are unevenly distributed (e.g. Povinelli 2006). Moreover, I situate such policies as technologies of violence that infiltrate the veins and capillaries of everyday life. Finally, drawing on chicana feminist Chela Sandoval's theory of love as an "oppositional consciousness" capable of energizing a collective decolonial politics, I analyze the radical praxis of love emergent in the "Love in the Time of Apartheid" campaign, which centers on Palestinians' right to love and family life and seeks to repeal the Citizenship and Entry into Israeli Law and, its possibilities for healing the Palestinian body-politic.

Word Count: 259

A long-term assessment of the Microclinic Social-Network Based Health Behavioral Program in Amman, Jordan.

Daniel E. Zoughbie, Dphil, Microclinic International, Royal Health Awareness Society Amman Jordan, Rami Farraj, MD, Eric L. Ding, PhD, Department of Nutrition, Harvard School of Public Health, Boston, MA, United States

Background: Chronic diseases are on the rise in low and low-middle income areas. It is imperative to establish interventions that translate well into communities and establish long-term change. The purpose of this work is to assess the longevity of a government-sponsored program that emphasized the importance of social-network mechanisms. The program focused on the *Abu Nseir, Amman Alshamel,* and *Al Heshemi* areas.

Methods: Using the Microclinic Social Network Behavioral Health Program in Jordan, data was collected at the beginning, end of the program, 12 months, and 24 months after program initiation. Multi-level repeated measures linear regression was used to estimate the long-term change in weight (kg), BMI (kg/m²), and HbA1c (%) in long-term follow-up after the program.

Findings: Of 315 participants who were asked to participate in the 2-year follow up at baseline, 262 (83.2%) completed the 4-month program, 283 (89.8%) returned for the 12-month follow-up and 216 (69.6%) for the 24-month follow-up. At completion of the 4-month program, participants lost an average of 2.8 kg. At 1 year, participants, on average, sustained a weight reduction of -1.8 kg from baseline, a -0.7 reduction in BMI, and 0.4% sustainable reduction in HbA1c up to one year from baseline. Two years from baseline, participants maintained an average weight loss of -1.6 kg from baseline, -0.42 reduction in BMI, and 1% reduction in HbA1c.

Interpretation: In this study, we demonstrated that the Microclinic Social Network Behavioral Health Program was translated well into this cultural context and participants experienced long-term success.

Word count: 248