

## 1. The impact of the 50-day Israeli aggression on Gaza's children

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**Background:** The UN has estimated that Israel's attack on Gaza between 8 July and 26 August 2014 resulted in the deaths of 2204 Palestinians, mostly civilians, and thousands left with permanent disabilities.

**Methods:** We reviewed surveys and reports from governmental and international bodies (MOH and UN) and independent NGOs to compile statistics describing the extent to which children were victims of this attack.

Additionally, we reviewed the findings of 24 researchers who interviewed 430 eye witnesses of 144 Israeli attacks on civilian gatherings (houses, hospitals, schools, mosques, shops and streets) in which at least 2 Palestinians were killed. Then, we separated attacks that resulted in death of children under 18 years.

Each attack was categorized as being direct/indirect (Direct attack means that bombing was intentional with no fighting in vicinity), whether a child was killed or injured; and what the killed children were doing before attack.

**Findings:** Children killed were 530, accounting for 24% of the total people killed, they also accounted for an estimated 30% of wounded.

Our review covered 338 (64%) of the total 530 children killed. 90% of the Israeli attacks were judged to be direct and 89% of these targeted densely-populated areas. 88% of dead children were killed in their homes. 21% of these were sitting with their families; 28% were asleep; 10 % were eating; 8.1% were watching TV or using computer.

12% of the killed children died while fleeing their houses; 6.3% killed while at basement or at UNRWA schools; and 6.3% died while playing. 9% killed while doing other activities.

Furthermore, the UN reported that 373,000 children need specialized psychological support and around 1,000 children will suffer permanent disabilities.

**Interpretation:** Our findings confirm allegations that Israel targeted non-combatants in Gaza, and that children accounted for a substantial proportion of the civilian victims.

**Word count: 300**

2. **Some medical consequences of the Israeli operation “Protective Edge” 2014: preliminary data from al-Shifa Hospital, Gaza Occupied Palestine**

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Abstract submitted by Mads gilbert (corresponding author) on December 15, 2014  
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**Background:** The Israeli Army military operations against Gaza July 8<sup>th</sup> to Aug 26<sup>st</sup> 2014 killed more 2.100 Palestinians and injured over 11.000. Of the killed, 521 were children ≤18 years; of the injured, at least 3.436 were children (UN data). We report preliminary findings on patient flow and triage at al-Shifa Hospital (Shifa) during 50 days bombardment.

**Methods:** We studied emergency admissions to Shifa by reviewing hospital protocols in the Emergency Room (ER), Intensive Care (ICU), and Operating Rooms (OR). Total casualties seen in ER, admissions, number of deaths, patients operated and ICU-admissions were recorded.

**Findings:** Shifa ER received 8.592 casualties of whom 490 (5, 7 %) were dead on arrival, 1.808 (21, 0 %) live patients were admitted, and 78 (4, 3 %) died in-hospital. The overwhelming majority were civilians injured by aerial bombing (drones, F-16 jets, helicopters); heavy ground or naval artillery shelling.

Among 1.808 admitted patients, 842 (46, 6 %) needed major surgery with anaesthesia in the OR (190 laparotomies, 146 orthopaedic fixations, 106 craniotomies, 69 thoracotomies/airway interventions, 38 vascular procedures, 49 amputations, 68 debridements and 176 other procedures). Most wounded needed more than one operation, and total procedures exceeded 842. The ICU received 253 patients, 197 (77, 9 %) men, 56 (22, 1 %) women and 87 (34, 4 %) children; 164 (64, 8 %) were discharged alive, 51 (20, 2 %) died in ICU and 38 (15 %) were transferred to other hospitals.

**Interpretation:** A high number of fatal injuries presented dead on arrival. Admission rate doubled and ICU mortality rates nearly tripled compared to the attack Nov. 2012, probably due to severe bombardment, severe shortages of supplies and hampered evacuation caused by siege. Despite these difficulties and lacking salaries, Shifa staff and volunteers managed the overwhelming, long-lasting influx of serious trauma patients extraordinary well.

**Word count: 300**

### 3. The mortality in the Gaza Strip in the period July-September 2014

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Abstract submitted by Mohammad Yaghi on December 14, 2014 [[yaghim@who.int](mailto:yaghim@who.int)]

**Background:** The Gaza war of July-August 2014 killed 2145 Palestinians and injured more than 11000. Some 28 percent of the population was internally displaced. In addition to thousands of homes, one hospital, three primary health care centres (PHC) and 19 ambulances were fully destroyed; and 18 hospitals, 60 PHCs and 47 ambulances were partially damaged. The strains on the population, infrastructure, supplies and health services may have exacerbated existing diseases and influenced non-trauma mortality in vulnerable groups.

This study aimed to assess mortality in the Gaza Strip during the war, and compare the level, causes and place of death with the pre-war mortality.

**Methods:** Date, sex, age, cause and place of each death were collected from all death notification forms in Gaza for the periods July-September 2013 and 2014. Information was also obtained from death reports in hospitals. Numbers and distribution of persons killed in the war were obtained from official sources.

**Findings:** The cumulative mortality from war-related trauma was 11.9 per 10000 inhabitants during the 51 days of warfare. During the same period the crude mortality from other causes was 4.0/10000. The average 51-day all-cause mortality for 2013 was 3.5/10000. The preliminary findings indicate that 56% of non-trauma deaths in 2014 took place in a hospital ward, compared to 77% in 2013.

**Interpretation:** A higher proportion of non-trauma deaths took place outside ward in 2014 compared to 2013. The ratio war-related trauma mortality to baseline crude mortality was higher than the internationally proposed threshold for major complex emergencies. Additional conclusions will be drawn when the age-adjusted and cause specific analyses have been completed. The detailed results and final conclusions will be presented at the conference.

**Word count: 276**

4. **Health of Internally Displaced Persons in temporary UNRWA shelters during the 50 days of war in Gaza**

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Abstract submitted by Hannah Wesley (corresponding author) on December 15, 2014

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**Background:** Existing emergency preparedness plans in UNRWA, Gaza anticipated being able to accommodate between 35,000 and 50,000 potential IDPs in schools often used as shelters during times of conflict. Within two weeks of the commencement of bombardments in July, 2014, that number had doubled, reaching a peak of over 300,000 shelter residents in 92 UNRWA schools. Conditions in the shelters were difficult, with an average of >3,000 IDPs in each. While UNRWA strives to prevent conditions in which communicable diseases flourish, hygienic conditions in shelters were difficult, with inconsistent access to non-potable water and sanitary facilities.

**Methods [Response]:** At first, UNRWA urged displaced refugees to visit the health center nearest their shelter. However, after a rapidly increasing IDP population began to severely strain daily operations at health centers, UNRWA installed health points at each shelter consisting of three HC staff. Beginning August 1, the field office submitted daily epidemiological data on suspected and confirmed cases of cholera, meningitis, typhoid, hepatitis, scabies, lice and impetigo, and other communicable diseases. Population reports on shelter residents, and records detailing patients from shelters were collected daily.

**Findings:** Shelters reported zero outbreaks of communicable diseases. Lice cases peaked September 4th with 1126 reported new cases; by September 7th that number was down to 46, after widespread health education campaigns and improved access to sanitary facilities. Health centers saw a peak of 6,000 patients per day from shelters, however after the establishment of health points and medical staff the excess burden was drastically reduced.

**Interpretation:** UNRWA was able to respond quickly to the needs of its population, opening shelters within five days of the commencement of the conflict. Despite being at 6.2 times capacity, UNRWA was able to prevent outbreaks of communicable diseases common to areas with a high density of people living in difficult conditions.

**Word count: 300**

## **5. Determinants of School Non-Enrollment among Palestine Refugee Children from Syria in Lebanon**

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Abstract submitted by Zahraa Beydoun on December 15, 2014 [Beydoun.zahraa@gmail.com](mailto:Beydoun.zahraa@gmail.com)]

**Background:** Education is one of the most robust determinants of health. Disruption of children's school enrollment due to war and displacement has far reaching consequences on their future health and wellbeing. According to UNRWA, the children of Palestine refugees from Syria (PRS) in Lebanon are extremely vulnerable to school non-enrollment and dropout. We report the rates of school non-enrollment among PRS children in Lebanon and examine its household-level determinants.

**Methods:** The study is based on secondary analysis of data gathered by UNRWA from 12,803 PRS families (42,240 individuals) during the summer of 2014. We limited our analysis to 6-18 year old children (N=11,757). We examined the bivariate associations between school non-enrollment (dependent variable) and a host of demographic and household socioeconomic variables (independent variables).

**Results:** As the data were only recently obtained from UNRWA, analysis and interpretation of findings are ongoing. A large proportion of 6-18 year old children (33.2%) are not enrolled in school and 8.3% (mostly 6 and 7 year olds) have never attended school. Predictably, the main reason provided for non-enrollment is war and emigration conditions (42%). However, school failure, poverty, and inaccessibility were also reported. Despite the strong influence of war and displacement, our preliminary findings revealed that household (type of residence and assets) and family (education of the head of the household) characteristics were also strongly associated with non-enrollment.\* Our findings can support decisions by UNRWA and others in identifying the most vulnerable children and facilitating their enrollment in school.

\* Bivariate analyses are ongoing; detailed findings and interpretation of these findings will be presented at the conference in March in the case the abstract is accepted.

**Word count: 245**

## **6. Addressing Violence among Palestine Refugees through Primary Health Care**

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**Background:** Gender-based violence was identified as a priority by the WHO in 2013 and the 67th World Health Assembly in 2014, emphasizing the need to strengthen health systems in addressing violence. In the West Bank, UNRWA's Health Programme is working to combat violence against vulnerable groups, integrating GBV prevention and response into its mental health and PHC packages.

**Methods:** A qualitative review of UNRWA's mental health and GBV information system and reports.

**Findings:** About 37% of married women, 51% of children and 7.3% of elderly person 65 years and older have been exposed to one or more forms of violence in their homes by an individual of the household in the Palestinian territories\*. Violence against women in Palestinian society is increasing, as seen by the doubling of honor killings in 2013 compared to 2012. On average, domestic and GBV cases represent 18-19% of UNRWA psychosocial counsellor caseloads. In the first year of implementing technical protocols on GBV management and referral detections tripled, and is steadily increasing. Over a 6-month period in 2014, 38% of cases were self-referred, 38% were detected by PHC staff including psychosocial counselors, and 24% by other UNRWA service providers and CBOs. 90% of survivors who accessed UNRWA services in the health clinics reported that they would not have sought help outside of the HC. Qualitative data suggests that selected preventive initiatives provided in UNRWA's primary health care settings, such as on sexual and reproductive health and rights, has an impact on the perceptions of violence and behaviours of individuals in a household.

**Interpretation:** Introducing mental health, including GBV services, into UNRWA's primary health care has increased access to vulnerable groups for support. These results indicate the continued need to strengthen PHC systems to include mental health and GBV prevention and services for vulnerable groups.

\* Palestinian Central Bureau of Statistics: Violence survey in the Palestinian Society, 2011.

**Word count: 298**

## **7. Lebanese perceptions on citizenship rights for children of Lebanese mothers and Palestinian fathers**

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Abstract submitted by Zeinab Cherri (corresponding author) on December 15, 2014

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**Background:** Nationality in Lebanon is transmitted through patrilineal descent, depriving the children of women married to foreigners from citizenship rights, legal protections, and health and social services. When the father is Palestinian, the children are especially excluded because they become stateless. Calls to liberate the Lebanese nationality law of gender discrimination are often stymied by references to *tawteen*,<sup>1</sup> and the Lebanese fear from naturalizing a large number of Palestinians. We examined whether this fear extends to depriving Lebanese women married to Palestinian men from conferring their nationality to their children.

**Methods:** The study is based on mixed qualitative (13 focus group discussions) and quantitative data (survey in Greater Beirut; N=450) collected in 2011. Focus group data were analyzed using open- and thematic coding. Survey data were used to test the hypothesis that Lebanese public perceptions are in fact in favor of granting children of women married to Palestinian men citizenship.

**Results:** Qualitative findings highlight that Palestinian men are undesirable husbands and fathers because of legal restrictions that promise future hardships to women and their children. Survey data, however, revealed a strong public support for granting Lebanese women married to Palestinian men the right to confer citizenship to their children (women=84%; men=74%;  $p < .01$ ). This support was consistent across sociodemographic categories and not influenced by strength of identification with one's religion/sect. The children's right to citizenship received stronger public support compared to all other rights (e.g., employment).<sup>2</sup>

**Interpretation:** Lebanese public opinion is in strong support of Lebanese women's right to confer nationality to their children even if the father is Palestinian. Gender equality in citizenship overrides anti-Palestinian racism when it comes to the wellbeing of the children of Lebanese women.

**Funding:** Data collection for the study was supported by a grant from the Issam Fares Institute for Public Policy and International Affairs at the American University of Beirut

<sup>1</sup> *Tawteen* means naturalization in English, but it is specifically used in reference to Palestinian refugees

<sup>2</sup> Multivariate analyses will be carried out pending acceptance of the abstract.

**Word count: 308**

## 8. The Chronic Water Shortage and Early Childhood Development in Palestine; Making the link and implications for Policy and Practice

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Abstract submitted by Ghassan Shakhshir on December 15, 2014 [[gh.shakhshir@gmail.com](mailto:gh.shakhshir@gmail.com)]

**Background:** Despite the implementation of considerable early childhood development, health and education assistance programs, the percentage of the Palestinian children who are not on track in their social, cognitive and physical development, is higher than their peers in the neighboring countries. Considerable research linked the chronic water shortage with children growth and survival, but rarely with early childhood development. This research establishes an evidence that chronic water shortage, which is a key feature in Palestine, influences the early childhood development through the casual mediated effect of family care and poverty, and moderated effect of child health. Implications of this link for child wellbeing and assistance programs have been presented to improve the policy and practice.

**Method:** Demographic and Health data obtained from nationally representative surveys, were merged and analyzed. The causal mediation and moderation modeling was developed and used to explain the pathways through which water supply interacts with child health, child care and family poverty and influence the child development. Ecological data on 52 communities in Palestine, were collected, merged and used to develop, for the first time in Palestine, a water-child wellbeing index, to be used as a single summary measure that monitors the impact of water shortage on children wellbeing and development.

**Findings:** The influence of unimproved water supply on early childhood development is mediated by the effect of in-adequate family care and poverty but moderated effect of child health.

**Interpretation:** Children born and raised in households and communities with inadequate water supplies are at more risk not to achieve their development potential. The influence of water shortage exacerbates the negative impact of poverty and inadequate family care on early childhood development. Child based programs need to address the impacts of unimproved water supply beyond health and survival. Interventions that address child care, poverty and health holistically, are vital to promoting optimal early childhood development.

**Word count: 308**



9. **Title: Lung function and respiratory symptoms among female hairdressers in Palestine, a five-year prospective study**

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Abstract submitted by Maysaa Nemer (corresponding author) on December 14, 2014

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**Background:** Hairdressers are at risk of developing respiratory health problems due to exposure to chemical compounds at their work place. We aimed at examining possible changes in self-reported respiratory symptoms and lung function during a follow-up period of five years. Also, we examined the associations between occupational factors and lung function changes between baseline and follow-up.

**Methods:** A cohort of 170 female hairdressers in Hebron answered a questionnaire and performed a lung function test in 2008. A follow-up study was conducted on the same cohort in 2013, where 161 subjects participated. Twenty-eight (16%) of the participants had left their profession. Ammonia was measured once in 13 salons (23% of all salons) encompassing 33 participants.

**Findings:** Current hairdressers reported significant higher changes in chest tightness (PD = +0.037, 95% CI= +0.005 to +0.069), shortness of breath (PD = +0.038, 95% CI= +0.001 to +0.076) and morning phlegm (PD = +0.068, 95% CI= +0.020 to +0.115) in 2013 compared to baseline reports. Former hairdressers reported fewer symptoms at follow-up. At follow-up current hairdressers showed a significant decrease in FEV<sub>1</sub> of 31 ml/year (95% CI= 25 to 36). Hairdressers who had been working for four years or more at baseline showed stronger annual mean decline in FEV<sub>1</sub> of 35 ml as compared to those who worked less than four years (22 ml; difference 13 ml, 95% CI= 1 to 25 ml).

**Interpretations:** Current hairdressers developed more respiratory symptoms and larger lung function decline than former hairdressers during follow-up. Working for more years increased the lung function decline. Work place related factors including chemical exposures have negative impact on the respiratory health of hairdressers. Thus, there is a need of monitoring exposures and eventually improve the workplace conditions such as ventilation and availability of less harmful alternative chemicals.

**Word count: 294**

## **10. Potential Health Effects from Contamination of Fish Muscle Tissue, Seawater and Sand by Heavy Metals in the Mediterranean Sea of Gaza, Palestine**

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Abstract submitted by Dr. Mohammed Abudaya on November 14, 2014  
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**Background:** The siege and military invasions of the Gaza Strip placed additional pressure on the Strip's undeveloped sewage infrastructure. A visible manifestation is the raw and partially treated sewage discharging into the Mediterranean. Heavy metals enter the environment by natural and anthropogenic means. Such sources include: sewage effluents, soil erosion, mining, industrial discharge, urban runoff and other sources. Heavy metals intake by consuming fish, even in low amounts, can cause serious health hazards, and negatively affect aquatic organisms.

**Methods:** Concentrations of heavy metals (Cd, Cu, Mn, Ni, Pb and Zn) were estimated in muscles of two marine fishes (*Lithognathus aureti* and *Nemipterus aurifilum*). Twelve fishes from each species were purchased from fishermen at Gaza's fishing harbor. Heavy metal levels were estimated in seawater and coastal sediments samples. 48 seawater and 48 sediment samples were collected from 4 sites in various Gaza governorates. Twelve-500 ml sea water and 12 sediment samples weighing 1gram each were collected from each site. Concentrations of heavy metals were measured by atomic absorption spectrophotometer after digestion of the samples using a Kjeldah heating digester.

**Results:** Fish muscle had slightly higher concentration of heavy metals than the limits for fish consumption proposed by international organizations. The average mean concentration of heavy metals in seawater and sediment highly exceeded the limits for seawater proposed by international organizations and the standard guideline values. The transfer factor (accumulation factor) for both fish types was above one, which indicates that accumulation of heavy metals from seawater and sediment are the likely sources of contamination.

**Interpretation:** Consumption of *Nemipterus aurifilum* and *Lithognathus aureti* fish can pose as a health hazard to consumers. Long exposure to seawater and sediment while swimming can also pose as human health risk. Because of the health hazards associated with heavy metal consumption, their concentration in commercial fishes and the Gaza Strip coastal environment should be periodically examined.

**References:** Khlifi, R. & Hamza-Chaffai, A. (2010). Head and neck cancer due to heavy metal exposure: A review. *Toxicology & Applied Pharmacology*, 248, 71–88.

**Word count: 310**

## **11. Use of Antenatal corticosteroids among Palestinian Obstetricians: A cross sectional study**

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Abstract submitted by Rose Najeeb on December 14, 2014 [[roshalim88@yahoo.co.uk](mailto:roshalim88@yahoo.co.uk)]

**Background:** There is strong evidence suggesting the use of antenatal corticosteroids in women who are at risk of preterm birth to reduce the neonatal mortality and morbidity.

**Objectives:** We wished to assess the prescribing practice of Antenatal corticosteroids for women at increased risk of preterm birth among Palestinian Obstetricians and to determine whether this practice fit with the international standards or not.

**Methods:** A cross sectional study was conducted among 170 Obstetricians registered in the Medical society of Obstetricians and Gynecologists between end of January 2013 and mid of March, 2013. A postal questionnaire sent to the hospital settings and clinics where they work and response were re-followed later. Data were analyzed by SPSS 20, using chi square and fisher exact test.

**Results:** A reply to some or all the questionnaire was received from 135 Obstetricians giving a response rate of 79.4%. 97.8% of Obstetricians stated that they prescribe ACS to women believed to be at increased risk of Preterm delivery. Of all respondents, 37% start prescribing ACS at 24 weeks, 40% after 26 weeks. Only 17% of Obstetricians were adherents to good practice (based on Evidence based medicine). 61.1% of the obstetricians always consider the use of ACS in patients at risk of preterm labor, excluding those in preterm and premature rupture of membranes. 41.7% of respondents, use the RCOG recommended doses of corticosteroids. Only, Ten per cent, routinely recommended repeated courses of ACS. And they usually give one rescue dose (43.7%).

**Conclusions:** 97.8% of Palestinian obstetricians prescribe antenatal corticosteroids in the classical setting of uncomplicated early preterm labour, a practice which is supported by the evidence in the literature. Sixty nine per cent of practitioners would prescribe repeated courses of antenatal corticosteroid in those cases in which the risk of preterm birth persists or recurs. The frequent use of repeated courses of corticosteroids revealed in this survey has important implications which are now being addressed in clinical and laboratory based studies

**Word count: 322**

## **12. Determinant of neonatal mortality in Northern West Bank (Palestine-2012)**

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Abstract submitted by Amira Shaheen on November 22, 2014 [[Shaheenamira@yahoo.co.uk](mailto:Shaheenamira@yahoo.co.uk)]

**Background:** Although the world has recently achieved significant declines in under-five and infant mortality rates, progress in neonatal mortality is less marked, where neonatal mortality accounts for about 40% of the world under-five child mortality. In Palestine, high ratio of infant mortality (67%) is due to neonatal mortality, determinants of which are still not well studied. This study aims at investigating the major risk factors that are contributing to neonatal mortality.

**Methods:** A case-control design was adopted. Cases were obtained from all available officially reported cases of neonatal death that died after birth within 28 days after delivery in the northern West Bank in 2012 (98 Cases). Control data were obtained through interviewed questionnaires of mothers of live neonates born in 2012. Dead infant Questionnaire was the used tool to collect data from both cases and controls. Chi Square test and logistic regression were performed on the data.

**Findings:** Prematurity (36%) and congenital malformation (31.5%) were the main causes related to deaths among neonate. The following factors were showed to be protective from having neonate mortality; being a mother with high level of education OR=1.28 [95% CI; 1.09-1.64, P-value=0.042], Frequent of antenatal visits>4 time OR=2.98 [95% CI; 2.50-6.65, P-Value=0.001], and Breast feeding OR=1.18 [95%CI; 1.01-1.55, P-Value<0.001].

**Interpretation:** There is a need for the development of focused and evidence-based interventions to prevent neonatal deaths in Palestine. These interventions should be at all levels, and address risk factors of neonatal death. To strengthen reporting and the health information system is a major step in developing these strategies.

**Word Count: 255**

**13. Indications and patterns of lesions of liver biopsy & FNA cytology in adults and pediatrics patients in the West bank during the period 2008-2013, a cross sectional study**

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Abstract submitted by Reham Ghanem on December 15, 2014 [[ghanim@hotmail.com](mailto:ghanim@hotmail.com)]

**Background:** Various tests are used in the diagnosis of liver diseases, including lab tests, imaging studies and tests of liver tissue or cytology. However, liver biopsy remains the gold standard for diagnosis, assessing prognosis and developing a treatment plan.

**Objective:** The aim of this study is to assess the indication and pattern of results in adults and pediatrics in those who have undergone any kind of liver biopsy in the West Bank during the period of 2008-2013.

**Methods:** The study was a cross sectional descriptive study, and carried out in two histo-pathologic labs; Medicare lab in Nablus which represents north west-bank and Al-Makassed Hospital lab in Jerusalem which represents south west-bank. A convenient sample included 387 electronic & hard copies of the pathology reports concerning patients of all ages who have undergone liver biopsy in the above mentioned labs over the period from 1st Jan. 2008 to 31st Dec. 2013 were reviewed. Clinical data, Indication & biopsy results were studied & analyzed using SPSS 17.

**Results:** Most of liver biopsy indications were to establish a diagnosis in both age groups; for identification and determination of the nature of focal/ diffuse intrahepatic abnormalities on imaging studies in adults (54.4%) & for unexplained jaundice in pediatrics (38.3%). Pathological results were most commonly metastatic lesion in adults (28.8%) and hepatitis in children (28.4%). The method that was used mostly is percutaneous needle biopsy. Our study showed a statistically significant relationship between age or clinical findings and pathology results in both age groups (P value < 0.01).

**Conclusion:** The practice of liver biopsy in Palestine is consistent with the worldwide in terms of indications and technique, and there are differences between pediatrics and adults in the indications and results.

**Word count: 285**

#### **14. Effectiveness of mechanisms and models of coordination health services provision in humanitarian crises: a systematic review**

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**Background:** Effective coordination between organizations, agencies and bodies delivering or financing health services in humanitarian crises is required to ensure efficiency of services, avoid duplication, and improve equity. The objective of this review was to assess how, during and after humanitarian crises, different mechanisms and models of coordination between organizations, agencies and bodies delivering or financing health services compare in terms of access to health services and health outcomes.

**Methods:** We registered the review protocol in PROSPERO International prospective register of systematic reviews under number PROSPERO2014:CRD42014009267. Eligible study designs included randomized and nonrandomized designs, process evaluations and qualitative methods. We electronically searched Medline, PubMed, EMBASE, Cochrane Central Register of Controlled Trials, CINAHL, PsycINFO, and the WHO Global Health Library and websites of relevant organizations. We followed standard systematic review methodology for the selection, data abstraction, and risk of bias assessment. We assessed the quality of evidence using the GRADE approach.

**Results:** Of 14,309 identified citations from databases and organizations' websites, we identified four eligible studies. One study used quantitative methods, one used qualitative methods, and two used mixed-methods. The available evidence suggests that information coordination between bodies providing health services in humanitarian crises settings may be effective in improving health systems inputs. There is additional evidence suggesting that management/directive coordination such as the cluster model may improve health system inputs in addition to access to health services. None of the included studies assessed coordination through common representation and framework coordination. The evidence was judged to be of very low quality.

**Conclusion:** This systematic review provides evidence of possible effectiveness of information coordination and management/directive coordination between organizations, agencies and bodies delivering or financing health services in humanitarian crises. Our findings can inform the research agenda and highlight the need for improving conduct and reporting of research in this field.

**Word count: 299**

## **15. Assessment of meningitis in Gaza – surveillance, laboratory diagnosis and guidelines**

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Abstract submitted by Bjorn Eversen on December 15, 2014 [[Bjorn.Iversen@fhi.no](mailto:Bjorn.Iversen@fhi.no)]

**Background:** Rates of bacterial and viral (aseptic) meningitis are much higher in the Gaza Strip than the West Bank. Available laboratory diagnostic repertoire in Gaza is limited for bacteriology and virology. The aim of the study was to assess the clinical laboratory diagnosis and management of meningitis in Gaza and to identify the microbiological causes of meningitis.

**Methodology:** The assessment followed general guidelines of WHO and Centers for Disease Control and Prevention, using a preparatory questionnaire. A joint assessment was conducted in May 2014 in Gaza. In addition, cerebrospinal fluid (CSF) from meningitis patients were collected over a 6-month period and analysed at the Norwegian Institute of Public Health (NIPH) for viral and bacterial agents.

**Findings:** There is total lack of antibiotic policy and restrictions on antibiotic usage in the Gaza Strip. Hospital meningitis guidelines are not following international guidelines. Suspected meningitis patients are treated with antibiotics, even when viral cause is suspected, and often before hospital admission. Laboratories have dedicated staff and high productivity, but lack sufficient space, equipment and reagents, and certain standard operating procedures. No molecular methods are available for bacterial and viral detection. From 123 CSF samples examined at NIPH, serogroup B Neisseria meningitidis was detected in 8/123, Streptococcus pneumoniae in 1/123 and enteroviruses in 63/102.

**Interpretations:** National guidelines and policies to promote prudent use of antibiotics in the health services are needed. Clinical guidelines classifying and treating patients with suspected meningitis should be revised together with the stakeholders. A reference laboratory with defined tasks should be established. There is an urgent need for laboratory diagnosis of viral meningitis. Some laboratory protocols should be improved and equipment upgraded. The spring-summer meningitis outbreaks seem to be dominated by enteroviruses. Serogroup B N. meningitidis is the main cause of bacterial meningitis. Use of meningococcal vaccine should be considered.

**Word count: 300**

## **16. Awareness, attitudes and knowledge of Palestinian doctors about evidence-based medicine**

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Abstract submitted by Loai Albarqouni on December 12, 2014 [[lnb6des@hotmail.com](mailto:lnb6des@hotmail.com)]

**Background:** Evidence-based medicine (EBM) has emerged as an effective strategy to integrate evidence into decision-making alongside patient values and clinical expertise. The main aim of this study is to evaluate the awareness, knowledge and attitudes of physicians about EBM.

**Methods:** This was a cross-sectional study, in which data were collected between August and November 2014, using a web-based, 20-item questionnaire adapted from McColl et al. to assess awareness, attitudes and knowledge about EBM. We used email and social media to survey Palestinian doctors working in health centers affiliated with the Ministry of Health, UNRWA, academic and private sectors.

**Findings:** 135 physicians completed the questionnaire (Response rate=34%). The majority of them were men (86%), younger than 30-years old (77%), resident or general physicians (87%), who worked in a government healthcare setting or UNRWA (62%). Most of the respondents (73%) welcomed the concept of EBM, agreed that EBM is useful in their daily practice (77%), can improve patient-care (81%) and claimed that more than half of their daily clinical practice is evidence-based (62%). However, two-third of respondents thought that practicing EBM would place demands on already overloaded doctors. Only 25% had received formal training in EBM, 70% of these through the EBM Unit in Gaza. The major perceived barriers to practicing EBM were insufficient knowledge and skills(35%), lack of managerial and institutional support(18%), limited resources and free access to databases or libraries(23%), work overload(20%), and negative attitude to EBM among some colleagues, especially the most senior(25%).

**Interpretation:** Despite the positive attitude towards learning and implementing EBM among (mainly young) Palestinian physicians, they feel they have inadequate knowledge and skills in practicing EBM. They need effective practical educational training programmes in EBM, clinical appraisal and literature searching skills. Importantly, the attitudes of policymakers and senior staff need to change to promote the practice of EBM within the health services.

**Word count: 302**



**17. Umbilical Cord Care in Among Newborn Infants in Palestine; A Randomized Clinical Trial of Alcohol versus Dry Cord Care.**

Maher Shahrour 1 ,Nour AlHuda Sawalha 2, Murad Masri1 , Sundos Shalabi1 , Hanan Ja'bari1, Mohammad Salah Eddin1, Taha Jo'beh1, Ala' Lafi1, Ebtihal Jawabra2, Sa'eed Natsheh2, Motee Abu Awwad 2,3, Hatem Khammash 1,2,3 (corresponding author)

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Abstract submitted by Maher Shahrour on December 15, 2014[[mr\\_shahrour@hotmail.com](mailto:mr_shahrour@hotmail.com)]

Topical antiseptic cord care was recommended in developing countries as omphalitis is still a leading cause of sepsis among newborn infants. WHO recommended dry cord care and is used in many low risk areas of omphalitis and sepsis. In Palestine no clear recommendations were used and many pediatricians and hospitals are still use 70 percent alcohol for umbilical cord care.

**Aim:** To compare alcohol cleaning and dry umbilical cord care among normal newborns in two urban hospitals in Palestine.

**Design:** A prospective randomized controlled trial.

**Setting:** Two tertiary-level hospitals and newborn nurseries (Jerusalem, Hebron) that are affiliated with Al-Quds University -Palestine.

**Methods:** All infants born after 37 weeks in both hospitals were randomized to clean umbilical cord with 70 % alcohol versus dry cord care. Infants were excluded if they have major congenital anomalies, admitted to NICU, required antibiotics at birth or had prolonged hospitalization more than 72 hours. Data regarding umbilical skin changes or infections, omphalitis, sepsis and time of separation of umbilical cord were recorded. Informed consent was obtained from parents regarding participating in study.

**Results:** Total number of 692 newborn infant were randomized to both treatment groups; 344 in dry care group and 348 in alcohol group. No newborn in either group developed cord infection. The time of separation of umbilical cord in dry care group was 7.01 days versus 8.13 in alcohol group (p=0.001).

**Conclusions and recommendations:** Dry cord care is safe and result in short separation time of umbilical cord and did not increase rate of omphalitis. It can be recommended for use in our set-up.

**Word count: 262**

## **18. Resilience in Palestinian Refugee Society: Strengths and Drawbacks**

Laila Atshan, MSW, MPH, Independent Psychosocial Consultant

Abstract submitted by Laila Atshan on November 26, 2014 [[atshanlaila@gmail.com](mailto:atshanlaila@gmail.com)]

**Background:** Since the advent of the Syrian refugee crisis, thousands of additional Palestinian refugees have fled the painful circumstances induced by the conflict to refugee camps in Lebanon. This presentation will focus on the benefits and drawbacks of resilience among the Palestinian refugees in Lebanon (PRL). PRL have historically focused on their survival, as they were repeatedly marginalized, scapegoated and threatened by violent conflict and harsh living conditions.

**Method:** This presentation is based on professional and personal impressions gathered during psychosocial work with PRL conducted during the past four years, as well as approximately 25 years of working with the broader Palestinian community.

**Observations:** Faced with intense adversity, PRL have resiliently adapted to their traumas in the pursuit of a livable daily existence, ensuring their survival. Though resilience and coping skills have allowed Palestinian families and individuals to maintain functionality, fundamental traumas of poverty, humiliation, dispossession, and exile remain unresolved. Further, being continuously forced to live on survival instincts has been emotionally and physically exhausting for Palestinians generally and PRL specifically.

**Interpretation:** Effectively, PRL have superficially stitched the wound without healing it properly. The influx of Palestinian refugees from Syria into Lebanon has re-opened some of the stitched wounds, producing myriad consequences. The crisis has collapsed the established resilient psychosocial structure that previously sustained generations of Palestinian refugees in both countries. The refugee community's resilience has been stretched to its breaking point, as all of the energy has been drained by years of living without hope and ambition. The breakdown of these mechanisms has aggravated unhealed wounds and produced depression, violence, and anxiety. This complex, intergenerational trauma must be addressed with a human-rights based and recovery-oriented approach.

**Word count: 277**

## **19. Sources of human insecurity in an Area C West Bank community, occupied Palestinian territory (oPt).**

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Abstract submitted by Nouh Harsha on December 14, 2014 [[nouhh@hotmail.com](mailto:nouhh@hotmail.com)]

**Introduction:** The concept of human security is broadly used to articulate experiences related to the protection or the lack of protection of individuals from all sorts of threats and needs.<sup>1,2</sup> Since the 1967 Israeli occupation of the West Bank and Gaza Strip, human security was seriously disrupted<sup>3</sup>. This study aims to assess the prevalence of human insecurity and associated factors in a village located in Area C of the West Bank.

**Methodology:** A cross sectional survey with a representative sample of 413 households was conducted during April and May 2014, using a piloted valid questionnaire to determine the possible major social and political factors associated with subjective health as measured by human insecurity levels. Univariate, bivariate, and multivariate analyses were carried out using SPSS version 20.

**Results:** Result indicated that 32.4% of respondents reported high levels of human insecurity. Women were 2.4 times as likely to have high levels of human insecurity compared to men [OR=2.405(1.544-3.745)]. Respondents who reported owning land they cannot reach it (because of Israeli army measures) were 2.6 times as likely to have high level of human insecurity compared to respondents who owned land and could reach it [OR=2.570 (1.315-5.024)]. Respondents who reported having been held or attacked by Israeli settlers living nearby for a long period of time were about 4.5 times as likely to have high levels of human insecurity compared to those who had never been held or attacked by settlers for a long period of time [OR=4.544 (1.617-12.769)].

**Conclusions:** Exposure to political violence by Israeli settlers on Palestinian land was found to be a main risk factor for human insecurity. A just political solution for the ongoing conflict is the ultimate remedy of human insecurity. Further studies are recommended to determine the main causes of human insecurity in the occupied Palestinian territory.

**Word count: 300**

## 20. Life under Occupation: A Holistic Assessment of Adult Functioning in the oPt

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Jacobs Foundation Fellow, New America, Washington, DC, USA; Clea McNeely, Associate Professor, Public Health Department, University of Tennessee, Knoxville, TN, USA; Chenoa Allen, Graduate Student, Public Health Department, University of Tennessee, Knoxville, TN, USA

Abstract submitted by Brian Barber on December 14, 2014 [[bkbarber@gmail.com](mailto:bkbarber@gmail.com)]

**Background:** The 2009 Lancet special issue noted that Palestinian voices have been marginalized in dialogues about international health and that the universally acknowledged health agenda should be used to normalize understanding of Palestinian society. It, therefore, called for rigorous empirical evidence. This study responds to that call by providing a holistic, representative assessment of current Palestinian adult functioning.

**Methods:** A comprehensive, grounded survey was administered with an Event History Calendar in October 2011 via household interview to a representative sample of Palestinians (mean age 37.04) in the West Bank, East Jerusalem and the Gaza Strip (n = 1778; 50.3% female; 43.6% refugee) through a clustered probability sample drawn from all enumeration areas from updated 2007 PCBS census maps. The response rate was 97%.

**Findings:** Analyses were conducted separately by gender, region, and refugee status. Illustrative findings for the combined sample are:

### **Economic:**

Family Income (above poverty level):	51.3%
Employment:	49.2%
Inadequate food:	23.1%
Inadequate water:	40.1%

### **Political:**

Human insecurity:	83.5%
Perceived government stability:	20.6%
Heard/felt effects of bomb:	38.7%; (*Ever: 87.8%)
Home raided:	3.3%; (Ever: 77.9%)
Witnessed close person humiliated:	16.0%; (Ever: 73.8%)
Barred/delayed from travel**—medical care:	24.1%; (Ever: 98.3%)
Barred/delayed from travel**—visit family:	34.9%; (Ever: 95.1%)
Barred/delayed from travel**—work:	32.2%; (Ever: 91.9%)

\*since 1987; \*\*of those needing travel

### **Community:**

Sense of belonging:	M=3.34 (0.81), range 1-5
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**Family:**

Positive marital functioning: M=4.10 (0.74), range 1-5  
Family Satisfaction: 85%

**Psychological:**

Feeling broken/destroyed: M=3.08 (1.14), range 1-5  
Feelings of depression: M=1.08 (.77), range 0-3  
Trauma-related stress: M=1.13 (0.93), range 0-3

**Health:**

Poor General Status: 36.3%  
Limits on functioning: 13.4%

**Interpretation:** These findings are unprecedented in their breadth of coverage of a representative sample. They are useful in: 1) normalizing Palestinian health, 2) targeting intervention efforts, and 3) guiding health policy in the oPt and other populations enduring long-term adversity.

**Word count: 300**

**21. The prevalence of Non-communicable Diseases, and the entitlement to and the use of health services in the Gaza Strip: An analysis of a households' survey.**

Majdi Ashour, MD, MPH, UNRWA health program in the Gaza Strip; Ali Abou Zaid, PhD, AlAzhar University in Gaza

Abstract submitted by Majdi Ashour on December 15, 2014 [[majdyash@yahoo.com](mailto:majdyash@yahoo.com)]

**Background:** There is a growing need and interest in targeting the Non-communicable Diseases (NCDs) in Gaza Strip; however, little is known about their distribution among different populations' groups and about the use of health services by patients who have them.

**Methods:** We interviewed 760 households in the Gaza Strip in July 2013 about the use of health services, and the characteristics of household's members, including the occurrence of NCDs among them. We analyzed the entered data according to the frequency distribution of variables, and used Chi square test to assess the statistical difference of the grouped variables.

**Findings:** 659 (12.7%) of the 5192 individuals had at least one NCD. The prevalence of NCDs was higher among refugees than those who are not [493 (13.6% ) of 3618 versus 166 (10.5% ) of 1574; P=0.002]; among the enrollees in the GHI than those who were not [557 (13.1%) of 4259 versus 102 (10.9% ) of 933; P<0.0001]; among those who lived in refugee camps than those who did not [201 (14.3% ) of 1407 versus 458(12.1%) of 3785; P<0.0001]; and in the higher age groups ( P<0.0001).

540 (81.9%) out of the 659 patients regularly used the health services. The choice of the health providers of NCDs regular care differed by refugee status (P<0.0001) and by the enrollment in the GHI (P=0.009).

**Interpretation:** The entitlement to health care in the Gaza Strip through the refugee status and the enrolment in the GHI influences the choice of health care providers for NCDs and contributes to increasing the detection and the prevalence of NCDs; hence, there is a need to expand the entitlement to health services to achieve a universal access to health care in order to respond to the epidemic proliferation of NCDs in Gaza Strip.

**Word count: 296**

## **22. Impact of Location on Gender Disparities in Human Capital Formation in the Occupied Palestinian Territory**

Maame Esi Woode, Aix-Marseille University, France.

Mohammad Abu-Zaineh, Associate Professor, Chair of Excellence in Health Economics and Policy, Aix-Marseille University, INSERM, Research Unit, France.

Niveen Abu-Rmeileh, Associate Professor, director of Institute of Community and Public Health (ICPH), Birzeit University. Palestinian territory

Abstract submitted by Mohammad Abu Zeineh on December 15, 2014 [[mohammad.bu-zaineh@inserm.fr](mailto:mohammad.bu-zaineh@inserm.fr)]

**Background:** Human capital has been touted as a major determinant of development. In the case of the occupied Palestinian territories (oPt) the formation of human capital is greatly affected by the ongoing political conflict. This paper presents the result of an empirical investigation into the effects of physical barriers on the formation of human capital, advancing policy recommendations.

**Methods:** Human capital is composed of both education and health. Education is measured by enrolment while health is measured based on the presence of a chronic disease. Using data from the PAPFAM 2010, we empirically study gender disparities in human capital formation and the impact of physical barriers on these disparities. The focus is on children between the ages of 7 and 14.

**Findings:** Results show the existence of high disparities in human capital formation (both health and education). While children in the areas A and B are more likely to be attending school and be in good health compared to those from Gaza, those in area C appear worse off compared to those from the Gaza Strip. In addition, gender disparities in both variables appear highest in area C compared to both areas A and B as well as the Gaza strip.

**Interpretation:** The location of children not only affects their human capital but also the disparities that exist in the formation of human capital based on their gender. While children in less severely restricted regions are less likely to be educated or in good health, they are also more likely to face higher gender disparities in their access to both education and health. Thus in addition to ensuring that physical barriers are removed, for the development of the oPt to be successful, policies aimed at closing the gender gap in access to both education and health need to be addressed.

**Funding:** Foundation A\*MIDEX

**Word count:** 300

### **23. Re-thinking a Roadmap to Pursue Universal Health Coverage in Palestine – A Discourse**

Awad MATARIA, Department of Health System Development, World Health Organization – Regional Office for the Eastern-Mediterranean; and Sameen SIDDIQI

Abstract submitted by Awad Mataria on December 16, 2014 [[matariaa@who.int](mailto:matariaa@who.int)]

Universal Health Coverage (UHC) has never been as high on the global health and development agenda as it is today. Defined as all people having access to needed health services, without the risk of financial ruin, UHC succeeds in bringing back the rhetoric of ‘Health for All’ in a policy appealing lingo. Although some described the recent momentum as ‘*old wine in new bottle*’, the three dimensions of UHC (service, cost and population) offer an innovative approach for rethinking health system strengthening, while emphasizing the key role of health financing.

In the case of Palestine, the last decade witnessed active restructuring of the institutional set up of health financing, with at present four main schemes covering close to 60 percent of the West Bank population and 70 percent of Gaza Strip dwellers. These include: government health insurance scheme of public sector employees; subsidized scheme for vulnerable population; UNRWA scheme for refugees; as well as, small scale voluntary private health insurance arrangements. An analysis of the government scheme concludes that it does not act as a genuine insurance and lacks the effective pooling function, where collected premiums are transferred to treasury and Ministry of Health budget is decided upon by direct allocation from Ministry of Finance. Current arrangements prove to suffer from fragmentation and duplication, and lack adequate incentive structure to enhance performance. Despite an ‘extensive’ package of services, the inadequate quality undermines the depth of coverage and potentially compromise financial risk protection.

Recent years witnessed a revision of legal provisions of health financing in Palestine, with a Social Health Insurance (SHI) law being deliberated. Developing a vision, strategy and roadmap, focusing on the elements of SHI and its implementation functions, and devising a framework for implementation, is *sine qua non* to move towards the goal of UHC for all Palestinian population.

**Word count: 301**



## **24. Family Formation and Reproduction in the post-Oslo era**

Weeam Hammoudeh, Doctoral Candidate at Brown University, USA

Abstract submitted by Weeam Hammoudeh on December 14, 2014

[[Weeam\\_hammoudeh@brown.edu](mailto:Weeam_hammoudeh@brown.edu)]

**Background:** The post-Oslo era in the occupied Palestinian territory (oPt) has been characterized by considerable political, economic, and social shifts. While these shifts have arguably had significant impacts on the family and family formation in the oPt, our understandings of the processes leading to shifts in family formation are limited. This study explores the consequences of these shifts on reproductive preferences, behaviors, and decision-making among Palestinian women and men.

**Methods:** Over eighty semi-structured interviews\* were conducted with men and women in three West Bank towns, Nablus, Hebron, and Ramallah. Codes were derived through rereading of transcripts. Codes were then grouped and themes were identified.

**Findings and Interpretation:** The interviews provide insights into changing lives and lifestyles resulting from what at times appear to be paradoxical changes in the post-Oslo era; the confluence of what some respondents referred to as a ‘technological revolution’ or the ‘age of technology’; the unraveling of social ties and social connections; and the increased availability of consumer goods or luxuries at a time characterized as economically challenging and politically uncertain.

The respondents’ narratives highlight the increasing financial and material demands on families, which have impacted the ways in which families think about and make decisions about reproduction. While the cultural emphasis on family and childbearing is very much alive, families’ abilities to meet the needs of their children are constrained by prevailing economic and political conditions. In some ways, responsibility for social welfare has been privatized and taken on by families. These shifts occurring on social, political, and economic levels have had an impact on family formation and reproduction in the oPt, not only in terms of declining fertility rates and trends but also in terms of the beliefs and behaviors pertaining to reproduction.

\* Interviews are ongoing so the number is likely to increase prior to the LPHA

**Word count: 288**

## **25. The impact of child marriage on pregnancy outcomes: Evidence from Palestine using Propensity Score Matching**

Marwan Khawaja, Chief, Demographic and Social Statistics, Beirut, Lebanon

Abstract submitted by Marwan Khawaja on December 4, 2014 [[marwan.khawaja@gmail.com](mailto:marwan.khawaja@gmail.com)]

**Background:** This study examines the impact of child marriage on pregnancy outcomes, using recent data from the 2013 Palestinian MICS survey. It is widely known that child marriage is still prevalent in the Arab region, but little is known about its health consequences. Available evidence is largely descriptive in nature. Recent advances in propensity score matching analysis and recent large household survey data from Palestine provide an opportunity to assess the causal link between child marriage and adverse health outcomes for women and children.

**Methods:** The study was based on data from the 2014 cross-sectional MICS survey. The sample included face to face completed interviews with 11,125 (un-weighted) households and 13,967 women aged 15 to 49 years. Our subsample for matching analysis included 1,451 ever-pregnant women aged 15-24, of whom 552 (38%) women were married before age 18. The outcome variable was pregnancy outcome, namely if the pregnancy resulted in a live birth =0 or wastage (still birth, miscarriage or spontaneous abortion during the past two years). The ‘treatment’ effect was child marriage, measured by age at marriage before 18. Propensity score matching (PSM) and a propensity-based weighted regression models were used to assess the impact of child marriage on pregnancy outcome. Matching was undertaken using the variables: current age, education, region, type of residence, refugee status, consanguinity, and standard of living as measured by the wealth index.

**Findings:** The prevalence of pregnancy wastage was 24.6%, with significant differences between women who married early (30%) and other women (21%). Model based estimates and average treatment effect analysis showed positive impact of child marriage on pregnancy wastage.

The results are important for the design of policies and interventions to restrict or prohibit child marriage in Palestine in order to improve women’s health and well-being.

**Word count: 293**

## **26. Fertility Responses to Violent Conflict: Evidence from the Second Palestinian Intifada**

Valeria Cetorelli, London School of Economics, Department of Social Policy, London, UK  
Marwan Khawaja, UN-Economic and Social Commission for Western Asia, Beirut, Lebanon.

Abstract submitted by Marwan Kawaja on December 3, 2014  
[\[marwan.khawaja@gmail.com\]](mailto:marwan.khawaja@gmail.com)

**Abstract :** The Occupied Palestinian Territory has one of the highest rates of natural increase in the world. The persistence of high fertility in a context of prolonged conflict and military occupation has generated considerable research interest. However, previous work has been fairly descriptive. In this paper, we examine the impact of conflict on the fertility behaviour of Palestinian women during the second Intifada (2000-2005). Conflict intensity is measured using detailed information on monthly fatalities. The outcome variable, fertility, is investigated by the monthly timing of individual conceptions using detailed birth history data. A Cox model is used to assess the relationship between number of fatalities and hazard of conceptions. Findings show that increases in conflict intensity have a significant upward effect on fertility, adjusting for relevant covariates.

**Word count: 128**

27. **Anxious childbearing and precarious pregnancies: documentation, registration and the politics of birthing at the ‘right’ time and place in the Israeli occupied West Bank**

Doaa Hammoudeh, Institute of Community and Public Health, Birzeit University; Layaly Hamayel, Institute of Community and Public Health, Birzeit University; Rita Giacaman, Institute of Community and Public Health, Birzeit University

Abstract submitted by Doaa Hamoudeh on December 15, 2014 [[dshammoudeh@gmail.com](mailto:dshammoudeh@gmail.com)]

**Background:** Jerusalemites have been at the forefront of a coercive removal and transfer process. Since 1967, about 14,000 Palestinians had their Jerusalem-residency revoked by Israel, and thousands struggle to maintain Jerusalem-residency. Although physically dislocated outside the Separation Wall, Kafr ‘Aqab is inside Israeli-defined greater Jerusalem, thereby providing legal basis for Jerusalem-ID holders to maintain their Jerusalem-residency status in accordance with the Israeli ‘center of life’ policy. It also provides Jerusalem-ID holders married to West Bank-ID-holders a place to live with family members who otherwise cannot access or reside in Jerusalem without a permit from Israel. In this paper, we focus on a specific vulnerability during childbearing through exploring select case studies of women’s narratives as they relate to childbirth-related anxiety and pre- and post-Jerusalem-ID registration dilemmas.

**Methods:** Twenty-six in-depth semi-structured interviews were conducted by the authors with women residing in Kafr ‘Aqab. Interviews were transcribed verbatim in Arabic and analyzed by reading and re-reading transcripts. Key sub-themes related to childbearing were extrapolated.

**Findings:** Women’s narratives point to strong anxiety related to birthing within Jerusalem-boundaries, and specifically ‘inside’ the Separation Wall, to facilitate the birth registration process for Jerusalem-residency. Cases of psychological distress related to fears of checkpoint delays and of an ensuing birth at a checkpoint, and perceived link between political violence and negative health outcomes, including miscarriages, are addressed. While many women complained of compromised familial support systems during childbirth, including their husband’s presence during birth, women also negotiated these restrictions and where possible, utilized childbirth interventions to bypass occupation-imposed obstacles.

**Interpretation:** During pregnancy and childbirth, women residing in Kafr ‘Aqab face specific challenges and make unique political calculations related to birthing in Jerusalem, attesting to a particular vulnerability that threatens the well-being of the mother and child. Moreover, this study highlights fears of severe consequences of the lack of registration for children.

**Word count: 304**

## **28. Gaza war fatalities and injuries, 2014: Descriptive Study**

Yehia Abed<sup>1</sup>, Seham Abu Haddaf<sup>2</sup>

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2. Quality Control Department, Palestinian Ministry of Health, Gaza, Palestine

Abstract submitted by Yehia Abed on December 12, 2014 [[yabed333@yahoo.com](mailto:yabed333@yahoo.com)]

**Background:** War fatalities and injuries are a growing public health problem that requires urgent attention. This study aimed to describe mortality and injuries among Palestinians in Gaza strip and to assess impact on health system performance during 2014 war.

**Method:** The information is based on gathered data available in Health Information Center in Gaza proceeded by ethical and administrative permissions. Injuries and deaths per 100,000, Case fatality and Dirty War Index (DWI) were calculated.

**Findings:** During the 51 war days 11,228 injuries (648.7 per 100,000) and 2147 deaths (124.1 per 100,000) were reported. Case fatality was 19.1% and the highest was reported in Rafah (39.1%) and it was 45.4% in El Najar hospital. Our study pointed Dirtiness of the war as measured by DWI and highlighted suffering of children women and aged people. Mortality DWI was 46.2 % and it was 56.5% for Injuries. Dirtiness of war is not limited to killed and injured people but extended to target health institutions, Ambulances and health staff. Local community hospitals succeeded to cover more than 95% of cases in each governorate. Cases referred to the major hospital (Shifa) in Gaza strip were mainly from Gaza city (83%).

**Interpretation:** The last war is dirty and placed strains on the health system in Gaza which has been severely affected by the frequent Israeli attacks. Community hospitals and NGO sector have to be supported.

**Word count: 229**

**29. Israeli drone attacks on Gaza cause severe amputation injuries: a retrospective, clinical follow-up study of traumatic amputees in Gaza, occupied Palestine.**

Hanne Heszelein-Lossius medical student, The University of Bergen, Norway; Yahya Al-Borno MD, Yasmeen Keita MD and Nashwa Skaik MD, all Al-Shifa Medical Centre, Gaza Strip, occupied Palestinian territory; Dr. Hazim Shawwa Director, The Artificial Limb and Polio Center Gaza, Mads Gilbert MD Clinic of Emergency Medicine, University Hospital of North Norway and Institute of Clinical Medicine, Arctic University of Norway, Tromsø, Norway

**Background:** Four major Israeli military attacks have killed around 4000 and injured over 17.000 Palestinians in Gaza since 2006. An unknown number of the wounded suffered extremity injuries with amputations. Long-term functional, somatic and psychosocial consequences of traumatic amputations in Gaza have not been reported.

**Methods:** We studied 147 randomly selected Palestinian surviving casualties in Gaza who had suffered traumatic amputations following Israeli attacks during the period 2006-2014. Date, mechanism of injury and results of detailed clinical examinations were recorded. The study was organized in a local rehabilitation center. Records and questionnaires were in Arabic, later translated to English. Data were analyzed with SPSS. The Palestinian Ministry of Health, the Al-Shifa Hospital's board and the Artificial Limb and Polio Center in Gaza's directors approved the study.

**Findings:** The study population consisted of 136 Men (92, 5%) and 11 women (7, 5%). Mean age was 30, 6 years (16- 64). Eighty-five patients (57, 8 %) had unilateral lower extremity amputations, 31 (21, 1%) bilaterally lower extremity, while 31 (21, 1%) had other amputations. Drone attacks were the reason for the explosions causing the amputation injury in 85 cases (57, 8 %). Fifty-two (68, 4 %) of such drone attacks were reported to have happened during time of declared war. Twenty-four (31, 6 %) were reported to have occurred during the periods of cease-fire, and 9 (11, 8%) reported only the month and year of attack, but no exact date.

**Interpretation:** Israeli military attacks on Gaza have caused an unknown but large number of traumatic amputations in Palestinians. Eight of ten amputees suffered uni- or bilateral lower limb amputations. The majority of amputations followed attacks with drone-carried weapons, occurring also during times of cease-fire.

**Word count: 281**

**30. Consequences of war on health: interviews with injured patients from the Gaza Strip admitted to East Jerusalem hospitals in the summer of 2014.**

Hana AL Khayyat<sup>a</sup>, Lara Abu Sara, Prof Espen Bjertness PhD<sup>b</sup>, Prof Rita Giacaman, PharmD<sup>a</sup>

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Abstract submitted by Hana Alkhayyat on December 15, 2014 [[hanashweiki@gmail.com](mailto:hanashweiki@gmail.com)]

**Background:** The summer-2014 Israeli war on the Gaza Strip (GS) resulted in over 2200 deaths, 10,000 injuries and over 100,000 people displaced. In July-August 2014, we interviewed Gaza patients/companions who were transferred to East-Jerusalem hospitals for treatment aiming to uncover some of the effects of war on health.

**Methods:** Forty-one patients were included in a convenient sample of patients transferred from GS to East-Jerusalem between July 8th and August 30th 2014. Interviews were completed with patients older than 17 years, and with companions if <18. A structured interview guide developed after piloting was used. The study was approved by Birzeit University's Research Ethics Committee.

**Findings:** 22 male and 19 female patients were included, aged 9 months to 63 years. Over a third were children under 18. Four were sleeping when injured, 12 were preparing food, 14 were sitting at home, and the rest outside home. 37 did not received warning by the Israeli army before the attack. The majority reported others killed or injured during the same attack. A third were transferred to hospital by means other than ambulance. 33 said they were transferred from the Strip's hospitals to East Jerusalem Hospital due to severity of the case. About a third reported little hope for GS in the near future and about half hoped GS would return to normal life. However, most also hoped that Gazans would eventually be united, and would live life like the rest of people in the world.

**Interpretation:** Results uncover war's effects on civilians, where the 'home front' has become 'the battlefield'. Every effort should be made to prevent such wars, which invariably negatively affect physical as well as mental health (the wounds inside). Gaza is among the most crowded territories, and it is almost impossible to avoid affecting innocent civilians following such attacks.

**Word count: 298**

### **31. The War on Gaza: Engineering Mass Torture and Trauma to Break Palestinian Resilience**

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Abstract Submitted by Said Shehadeh on December 17, 2014 [[said.shehadeh.psyd@gmail.com](mailto:said.shehadeh.psyd@gmail.com)]

The following paper examines the psychological sequelae of the recent Israeli military assault on Gaza, known as Operation Protective Edge. Regarded by most of its survivors as the worst military assault since the Nakbeh of 1948, the assault resulted in wide-range destruction of Gazans' homes and infrastructure as well as large-scale indiscriminate killings of over 2100 people, who were overwhelmingly civilians. This analysis seeks to go beyond the war statistics and to draw attention to the often-neglected psychological corollaries of this assault. The paper starts by offering a historical perspective of this latest installment of Israeli military assault on Gaza, and frames it in the context of the century long Zionist colonial project in Palestine.

Drawing on testimonies of Gazan children, children, men and women who were injured during the recent war on Gaza, and subsequently treated in hospitals in Jerusalem and the West Bank, the author attempts to capture the psychological experiences of those Gazans who survived through the war. The author contends that the psychological trauma systematically engineered by the Israeli occupation forces against the entire Gazan population constitutes mass torture. This included intentional measures to induce mass feelings of helplessness, uncontrollability, persistent life-threatening fear, horror, sleep deprivation and sensory disruptions, against an entire besieged population.

Ramifications of this policy of mass torture are discussed in relation to the psychological well-being of Palestinians in Gaza, and its potentially caustic effects on Palestinian resilience in general. The mental health risks include complex traumatic reactions, identity distortions, severe psychopathology and multigenerational transmission of trauma. Recommendations emphasize the need to prevent such mass torture in the future through the protection of international law, as well as the development and implementation of community-based intervention models to fortify Palestinian resilience in order to protect individuals and communities from mass trauma.

**Word count: 298**



**32. War outcomes in 37 patients admitted from Gaza to East Jerusalem hospitals during the Israeli offensive in Gaza in July and August, 2014**

Medical student Audun Elias Os Eskeland<sup>a</sup>, Medical student Kari Johanne Eikeland Benitez<sup>a</sup>, Medical student Mathilde Simonnes<sup>a</sup>, Prof Rita Giacaman PharmD<sup>b</sup>, Prof Espen Bjertness PhD<sup>a</sup>  
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Abstract submitted by Audun on December 15, 2014 [[aeeskela@studmed.uio.no](mailto:aeeskela@studmed.uio.no)]

**Background:** During the 50 days Israeli offensive in the Gaza Strip during the summer of 2014, 215 casualty patients were evacuated to hospitals in the West Bank and East Jerusalem for treatment. We aimed at describing injuries and infections in patients from Gaza who received treatment at two East Jerusalem hospitals.

**Methods:** 37 patients were included in a convenient sample using two inclusion criteria, that the patient was transferred from Gaza to East Jerusalem between July 8th and August 30th 2014, and that the patient had sustained a war injury. 46 patients were invited and 44 agreed. 7 were excluded, 4 due to ethical considerations, 3 as they had no documented war injury. Analysis of demographic and medical information was based on the patients' medical files. The study was approved by Birzeit University's Research Ethics Committee.

**Findings:** 19 male and 18 female patients were included, aged 9 months to 53 years. 36 were injured during the ground invasion between July 17th and August 5th. The main mechanism of injury was blast injury. Shrapnel injury, crush injury and burns were the most common injury types. 25 patients had at least one positive bacterial culture; colonization of wounds predominated with positive cultures in 22 patients. *Acinetobacter* spp. was the most common pathogen. 69 cultures out of 126 tested showed resistance to multiple antibiotics.

**Interpretation:** The patients in this study have endured trauma of differing severity. Their experiences from the Israeli attacks on Gaza can lead to physical and psychological sequelae. The high infection rate may be a complicating factor. Seeing the war in the context of Gaza, with at least 11,100 injured and destruction of main sectors of society, including health care, global efforts and solidarity is needed to rebuild Palestinian society in Gaza, and to prevent this from ever happening again.

**Word count: 300**

### **33. Pharmacovigilance as a Right: Coupling the Agenda of Access to Medicines with an Agenda of Drug Safety in Palestine.**

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Abstract submitted by Danya Qato on December 13, 2014 [danya\_qato@alumni.brown.edu]

**Background** Within the broader context of their increased use, public health tragedies resulting from unsafe drugs, and inappropriate drug use generally, there has been a heightened global recognition of the necessity of coupling the agenda of *access* to medications as a right with an agenda promoting *safety*, or pharmacovigilance (PV). The Palestinian healthcare system currently has no unified system for PV however; with more than four million people living in an environment lacking policies to deal with the quality of pharmaceuticals on the market and no national capacity to ensure their safe use. Such a system is critical for the protection of the public from harmful drugs and unsafe medication use.

**Methods** In order to examine the challenges to implementing a PV system in Palestine, we utilized themes that emerged from the inaugural World Health Organization conference on Pharmacovigilance in the Arab world (held in Rabat, Morocco in September 2014) to frame a comprehensive review of existing peer-reviewed literature, health policy regulations, and other primary source material pertinent to pharmaceutical policies in both Palestine and Israel.

**Findings** The primary obstacles to establishment of a comprehensive PV program in Palestine include: lack of financial commitment to support development of such activities; insufficiently trained personnel able to undertake PV tasks; lack of interest in prioritizing drug safety over other healthcare challenges; where regulations are in place, there is a lack of outreach, enforceability, and accountability mechanisms; political barriers impeding educational efforts; a captive Palestinian market limiting comprehensive and sustainable drug policies; and pharmacy practice patterns that promote unsafe self-prescribing of medications.

**Interpretation** Our findings indicate the need for a multifaceted, multi-stakeholder approach to holistically address the obstacles to creating a unified and sustainable drug safety system in Palestine.

**Word count: 286**

**34. National Health Surveys: Redressing the balance between international stakeholders and health priorities at the national level in the Arab region – the case of the Palestinian Family Survey, 2010**

Rula Ghandour<sup>1</sup>, Katie Bates<sup>2</sup>, Sawsan Imseeh<sup>1</sup>, Suzan Mitwalli<sup>1</sup>, Shiraz Nasr<sup>1</sup>, Doaa Hammoudeh<sup>1</sup>, Ernestina Coast<sup>2</sup>, Tiziana Leone<sup>2</sup>, Rita Giacaman<sup>1</sup>

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Abstract submitted by Rula Ghandour on December 15, 2014 [[rghandour@birzeit.edu](mailto:rghandour@birzeit.edu)]

**Background:** Population health surveys play a vital role in enabling the planning, implementation and monitoring of health programmes and policies at the national level. However, the construction of population health surveys is often determined by stakeholder agendas. We aim to contribute to the discussion on the construction and implementation of health surveys in the Arab region and internationally. The Palestinian Family Survey (PFS) 2010 is used as a case study.

**Methods:** We utilize qualitative research methods to assess the construction and implementation of the PFS survey in the occupied Palestinian territory (oPt). The utility of the survey instruments and modules selected for inclusion in the PFS 2010 are evaluated.

**Findings:** Within the context of limited resources, the PFS provides evidence of a disjuncture between international agendas and data requirements at the national level. Of particular note is the disjuncture in data collection across particular age groups of women in the oPt – with women age 55-59 excluded in all modules of the survey except the household roster, and the dearth of questions addressing never-married women's health. Areas much in need of detailing (e.g.: mental health, exposure to violence) are not included. Instead, a range of questions related to HIV/AIDS in a country with less than 100 cases since 1988 are emphasized.

**Interpretation:** Population surveys are constructed and implemented with the support of international groups, and are necessarily restricted by available local resources. Whilst overwhelmingly positive an enterprise, there is a discussion to be had in the wider academic and health research community concerning the inclusion and exclusion criteria of particular modules and questions. This example shows how there is a need to re-evaluate health surveys taking into account the necessity of addressing health concerns within their specific national context, while retaining the ability to monitor international health targets.

**Word count: 297**

### **35. Human Resources for UNRWA Health Program at Jordan Field, 2014**

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**Background:** The WHO recommends a minimum of 100 nurses and 20 physicians per 100,000 population, or 10/10,000 and 2/10,000 respectively. In an effort to assess how the available human resources for primary health care (PHC) delivery at UNRWA's 24 health centers compare to global standards and rates in low, medium and high income countries, a comparison study was conducted.

**Methods:** Data for Jordan field was taken from the 2013 Annual Health Department Report; population per health worker and nurses per physician ration were calculated. Comparison data was collected from WHO reports, Jordan Ministry of Health Annual Reports and Collection of Health Statistics.

**Findings:** In 2014, UNRWA rates for physician to patient in Jordan field were .77 physicians per 10,000 population served, well below the average in Jordan of 26.5/10,000 and lower than Sri Lanka (5.5/10,000) and Thailand (3.7/10,000). This figure is less than half of the WHO recommended 2 physicians per 10,000 population . Nurse to patient ratios at UNRWA are 1.8/10,000, compared to WHO recommended 10/10,000 and Jordan's 46.6/10,000. Nurse to physician ratio at UNRWA is 2.1:1, lower than the African Region (8:1), but higher than the western region (1.5:1).

**Interpretation:** When compared to WHO recommended levels, it is clear that the Jordan field of UNRWA is incredibly understaffed. A steady increase in the refugee population has led to an increase in demand on UNRWA health services in Jordan. Combined with UNRWA's recent health reform to a primary health care model which was not accompanied by growth in the workforce, an increased burden has been put on the health system. Additions to the health workforce in primary health care are clearly needed to cope with the increased demand on health services.

**Word count: 281**

**36. Assessment of Applicability of e-Health in Gaza Governorates: Barriers and Opportunities Master thesis at School of Public Health – AlQuds University**

Eman AbuHarma, Masters graduate from the school of public health at Al Quds University; and Bassam Abu Hamad, Assistant Professor- School of Public Health, AlQuds University

Abstract submitted by Eman AbuHarma[[eabuhamra\\_doha7@hotmail.com](mailto:eabuhamra_doha7@hotmail.com)]

Although, using information and communication technology to improve the provision of health services “e-health” is seen as a vehicle for transformational health reform, adoption rate of e-health is still low. Barriers and readiness of our system to r-health is not enough known, and worth further efforts to explore barriers and opportunities to inform decision making on possible improvement actions

The design of the study is descriptive, analytical, cross sectional one. The study included 15 Primary Health Care centers and 8 hospitals selected through a probability multi-stage sampling approach. Participants were selected (420) through a stratified random sample with a response rate of 90.2%. Data were collected using a self-developed questionnaire applied through a group-administered technique. The reliability coefficient was high (Cronbach’s Alpha 0.898).

Although, 41.3% of respondents reported that they heard about e-health prior to this study, answers from open-ended questions support the assumption that awareness about the “e-health concept” is limited. The overall mean percentage reflecting the e-health readiness was 63.4%. Domains’ means were 74.9%, 64.1%, 39.6% for acceptance readiness, need-change and technological readiness respectively. The mean dependency on information and communication technology in health record was not adequate (30%). Nurses elicited the lowest e-health readiness scores among other categories, also males reported higher scores than females and the variations among the groups were statistically significant. Also, Non-governmental Organizations reported statistically significantly higher scores than other sectors. Similarly, primary health care centers reported statistically insignificant higher readiness than their counterparts from hospitals.

Efforts to promote e-health readiness may focus on staff awareness, training, enhancement of the infrastructure and promoting the computerization of the medical health record.

**Word count: 267**

**37. Impact of the recent attack on the utilization of medical services in Al-Nasser Pediatric Hospital: a comparative study**

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Submitted by Nabil Al Barqouni on October 28, 2014 [[nbarqouni@gmail.com](mailto:nbarqouni@gmail.com)]

**Background:** During the 51-day recent attack on Gaza, approximately 2145 people were killed, of whom 20% were children. This study was done to evaluate the utilization of medical services in Al-Nasser Pediatric Hospital during the attack.

**Methods:** We retrospectively compared the number and the pattern of admissions in Al-Nasser Pediatric Hospital, largest pediatric hospital in Gaza Strip, during the attacks period in 2014 (July-August) with the same time period in 2013.

**Findings:** A total of 3018 and 1706 patients were admitted during 2014 and 2013 periods respectively. There were no significant differences in sex (male: 60.6% vs. 59.4%) and geographical distribution of the patients (Gaza: 75.6% vs. 78.1%, followed by North-governorate: 17.8% vs. 18.8%). Moreover, there were no significant differences in the distribution of different disease categories, except for meningitis (43.2% in 2014 vs. 21.9% in 2013). Number of ER-visits was also similar in the two periods (20,100–20,400 patients). Additionally, Hospital mortality-rate was similar (1.2-1.3%). Bed-occupancy rate nearly doubled in attack-period (180% vs.95%).The median hospital stay was significantly shorter in attack-period (2[1-3] vs. 3[1-6] days).

**Interpretation:** The admission rate during the attack-period was doubled, without a significant increase in ER-visits. This could be due to the closure of other healthcare-facilities (due to damage or insecurity), but also might be attributable to changes in healthcare seeking-behavior during the attack-period as only those who are severely ill take the risk to come to ER, which could be reflected by the increase in meningitis-related admission during attack-period. Of particular importance, despite the increase in admission and bed-occupancy rate during attack-period, hospital-mortality rate was similar in both periods. Required resources (including human workforce) should be prepared in advance to adopt the increase in admission rate during emergency state.

**Word Count: 285**

### **38. Use of UNRWA health care services in Lebanon by Palestine refugees from Syria**

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Abstract submitted by Hannah Wesley on December 15, 2014 [[H.WESLEY@unrwa.org](mailto:H.WESLEY@unrwa.org)]  
Corresponding author Hannah Wesley

**Background:** United Nations Relief and Works Agency for Palestine refugees in the Near East (UNRWA) provides comprehensive health care to Palestine refugees. Due to ongoing conflict in Syria since March 2011, thousands of Palestine refugees registered in Syria (PRS) have fled to Lebanon. A qualitative survey conducted among health centre (HC) staff in Lebanon showed that 64% believe PRS use health services somewhat or much more frequently than Palestine refugees already living in Lebanon (PRL). We sought to verify this perception with quantitative data.

**Methods:** Data from all 27 UNRWA HC in Lebanon was collected on a monthly basis from Feb-2013 through Oct-2014. Average number of daily visits by PRS and PRL for preventative/curative care, and for doctor consultations per month was documented.

**Findings:** In Lebanon, 302,572 PRL and an average of 48,011 PRS were registered at UNRWA during this period. The average number of HC visits per month was 108,538 by PRL and 24,072 by PRS. Of the Palestine refugee population, more HC visits (for preventive/curative care) occurred by PRS compared to PRL (50.1/100 vs. 35.9/100,  $p<0.001$ ). PRS had more visits with doctors (versus other HC staff) compared to PRL (45/100 vs. 26.9/100,  $p<0.001$ ). In addition, the proportion of doctor consultations of all HC visits was higher for PRS compared to PRL (89.8/100 vs. 75.1/100,  $p<0.001$ ). A change of these results was not seen over time, despite the duration of displacement.

**Interpretation:** Palestine refugees who were recently displaced from Syria use UNRWA HC services significantly more than PRL, especially services provided by medical doctors. Lack of access to governmental/private services for PRS may play a role, as well as a possible higher number of psychosomatic and physical problems due to greater stress-levels for PRS. More research is needed on the health seeking behaviours of PRS in Lebanon.

**Word count: 298**

**39. Coordinating the provision of health services in humanitarian crises: a systematic review of suggested models**

Tamara Lotfi, Andrea Darzi, Lama Bou Karroum, Rayan Hajjar, Ahmad El Rahyel, Jamale El-Eid, Mira Itani, Fadi El-Jardali, Elie Akl

On behalf of the Center for Systematic Reviews in Health Policy and Systems Research (SPARK), American University of Beirut, Lebanon

Abstract submitted by Elie Akl on December 15, 2014 [[ea32@aub.edu.lb](mailto:ea32@aub.edu.lb)]

**Background:** Our objective was to identify models of coordination between entities funding or delivering health services in humanitarian crises, that have been described in the literature.

**Methods:** We included reports describing models of coordination in sufficient detail to allow its reproducibility. We also included reports describing implementation of identified models, as case studies. We searched Medline, PubMed, EMBASE, Cochrane Central Register of Controlled Trials, CINAHL, PsycINFO, and the WHO Global Health Library. We also searched websites of relevant organizations. We followed standard systematic review methodology.

**Results:** Our search captured 14,309 citations. The screening process identified three full coordination models: “Health Cluster Approach” (with 15 case studies), 4Ws “Who is Where, When, doing What” mapping tool (with 2 case studies), and the “Sphere Project” (with 2 case studies). Most of the identified case studies used the “Health Cluster Approach”. Clusters are multiple agencies grouped together working within a specific sector of emergency response. The purpose of a cluster is to support and match the efforts of national authorities in critical areas of preparedness and response. The 4Ws mapping tool documents Who is performing What activities, Where the activities are taking place, and When are they taking place in the aftermath of humanitarian crises. This tool provides support to map humanitarian activities across sectors and promotes both collaboration and coordination. Finally, the “Sphere Project”, the oldest model, encourages inter-governmental agencies to provide a comprehensive coordination model to address international and local humanitarian crises. A set of minimum evidence based standards in key areas of humanitarian aid was developed to enhance the quality of provided care.

**Conclusion:** This systematic review identified three proposed coordination models that have been implemented by entities funding or delivering health service in humanitarian crises. There is a need to compare the effectiveness and efficiency of these different models.

**Word count: 300**



#### **40. The role of Palestinian non-governmental organizations in the health sector: the case of Palestine**

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Abstract submitted by Tareq Areqat on December 15, 2014[[areqatareq@gmail.com](mailto:areqatareq@gmail.com)]

**Background:** Non-governmental organizations (NGOs) played an important role in the health sector before and after the creation of the Palestinian Ministry of Health (MoH) in 1994. The aim of this study is to investigate the role of Palestinian and international NGOs (INGOs) in the development of the Palestinian healthcare system's policies and practices.

**Methods:** The study employed semi-structured qualitative interviews with key informants in the Palestinian health sector, including MoH officials, 5 Palestinian local NGOs and 5 INGOs. The study was conducted from October-December 2014. Interviews focused on scope of work, priority setting, regulation, coordination and influence on national health policies.

**Findings:** The majority of local NGOs mainly focus on primary healthcare and rehabilitation, emphasizing the importance of voluntary work and transparency. Most of the INGOs predominantly work on health development and emergency response driven by community participation and empowering local NGOs. Both play a role in filling the gap in service provision and complement the work of MoH. Most local NGOs attest to the lack of governmental policy completed in partnership and regulating relations with them. INGOs activities are defined and constrained by international health agendas and the Palestinian MoH policy, available funding and Israeli occupation measures and restrictions. Both types of organizations are constrained by pre-determined national health strategy set by the Palestinian MoH without the active involvement of other healthcare providers.

**Interpretations/conclusions:** The MoH is the main governing body for the health sector in Palestine. Local and international NGOs are playing a crucial role in the Palestinian health system. While there is some coordination with local and international organizations on the basis of funds and communal service needs, the involvement of all on the policy level is absent. Every effort should be made to encourage the active involvement of all parties in policy development.

**Word count: 297**

**41. Palestinian women's satisfaction with reproductive health services at the health centers of the Health Work Committees, West Bank**

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Abstract submitted by Ranin DarKhawaja on December 15, 2014 [[raninkhawaja@gmail.com](mailto:raninkhawaja@gmail.com)], corresponding Author Hanan Abu Qtesh, [lama372002@yahoo.com](mailto:lama372002@yahoo.com).

**Background:** The women's Health program of Health Work Committees (HWC) has been providing preventive and curative reproductive healthcare services for women of all ages. The aim of this study is to improve the quality of the reproductive health services provided in the health centers of the Health Work Committees (HWC), through examining women's satisfaction in areas related to the structural, technical and process measures of quality.

**Methods:** We used qualitative and quantitative methods. Three focus groups discussions were conducted with women of different ages; in the north, middle and south of the West Bank. Face-to-face interviews were held with 72 stratified sample of women recruited from eight HWC's women's health clinics, using a piloted semi-structured questionnaire. The data was collected in August 2014, during one busy day for each health center. SPSS statistical package was used for data analysis. Oral permissions were elicited from women.

**Findings:** The results indicated that the highest proportion of women were pregnant women among all service seekers, followed by women seeking family planning services and the least proportion were women who came for preventive care. Women reported high satisfaction with the services, the location of the health centers and the healthcare providers. There was a variation in the quality and effectiveness of health education offered to women in different locations. Women beneficiaries were mostly from disadvantaged and marginalized areas.

**Interpretations:** The awareness of women regarding preventive care in the targeted communities is limited. Efforts should be continued and intensified to ensure women's access to preventive care, particularly in marginalized remote localities. Home visiting programs should be continued to reach out at least all women who receive antenatal care in these health centers. There is a need to improve the health education services offered both at the individual and group levels.

**Word count: 295**

#### **42. Trends in Primary Health Care Visits Among Palestine Refugees Registered in Syria, 2011-2014**

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**Background:** The conflict in Syria will enter its fifth year in March of 2015. Of the 500,000 Palestine refugees registered in Syria, more than two thirds have been displaced, with over 80,000 emigrating altogether. Nearly half of the 23 UNRWA health centers in Syria have forced to close due to security reasons, while 12 health points providing a limited service package have opened since December 2012 to ensure continuity of care for the population. Overall consultation rates dipped severely in late 2012, however the health system has recovered considerably in the past two years.

**Methods:** Total medical consultations for the period January 2011–November 2014 were analyzed. Q1-2011 was used as the baseline for average monthly consultations. 2013 and 2014 totals included consultations at health points.

**Findings:** After crashing to a low of 34.8% of pre-war consultations in November 2012, average monthly consultations recovered to 85.7% of pre-war totals in May 2013 and 103.9% of 2011 monthly totals in September 2014. Total consultations in 2013 represent 104% of 2012 totals, and 73.2% of 2011 consultations. Jan-Nov 2014 consultations were 126.7% and 92.7% for the same period in 2013 and 2011, respectively. In 2013, 55,187 Palestine refugees received care at a health point, while 109,425 had already visited health points by November 2014. 925,126 2014 consultations (number approximated to include December 2014) represents an average of 2.2 health center or health point visits per refugee, which just over one visit less than the field-wide average (3.14).

**Interpretation:** The return to pre-war consultation levels, despite a lack of stability in Syria is indicative of the resilience of UNRWA's health system. The establishment and increased capacity of health points has allowed a greater number of refugees to receive quality care, regardless of displacement. These numbers, despite 35% of health center closures is encouraging.

**Word count: 300**

**43. “Where Do We Go Now?” Palestinian Refugees from Syria and the Inept Response to their Crisis**

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Abstract submitted by Rima Rassi (corresponding author) on December 15, 2014 [[rr46@aub.edu.lb](mailto:rr46@aub.edu.lb)]

Among the many issues resulting from the ongoing strife in Syria is the emergence of yet another protracted refugee crisis. Palestinian refugees fleeing from Syria, as stateless refugees, have become one of the most vulnerable populations in the Arab world. In Lebanon, the United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA) reports that 41,000 Palestinian refugees from Syria (PRS) are registered with them as of October 2014. A troubling humanitarian crisis is developing in this context, as a result of the precariousness of the PRS legal status, the chaotic and limited response to their influx, and the lack of sustainable resources available to meet their needs – especially given the financial constraints that UNRWA and other actors are facing. Through a case study of the PRS in the Ain El Helwe Palestinian refugee camp in Lebanon, this paper maps the current crisis response, the provision of services - including healthcare - and the relationship between the myriad of actors on the ground, such as Lebanese governmental bodies and officials, Palestinian factions and popular committees, as well as national and international non-governmental organizations. This paper asserts that the response has intentionally adopted a short-term strategy and approach – which is neither adept to the stateless nature of the PRS, nor to the context of conflict in Syria, which may prevent the Palestinians from returning to their “homes”. This paper is based on semi-structured interviews with around 22 key stakeholders and adheres to the ethical considerations as instructed by the Institutional Review Boards at the American University of Beirut.

**Word count: 261**

#### **44. Micronutrient Deficiency According to Palestinian Micronutrient Survey, 2013 (PMS)**

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Abstract submitted by Alaa Abu Rub on December 15, 2014 [[aiaburub@usa.com](mailto:aiaburub@usa.com)]

**Background:** In 2013, the Palestinian Ministry of Health decided together with UNICEF, with the scientific cooperation of the University of Vienna, to conduct a representative cross sectional study on the micronutrient status, prevalence and causes of nutritional anaemia in State of Palestine.

**Methodology:** A cross-sectional was carried out on children (6–59 months (1200 child) (, 7–12 years (1200 child)), adolescents (15–18 years (2400 students), pregnant women ((18–43 years (1200 women)), and lactating mothers (18-48 years (1200 mothers)) in the State of Palestine. In addition to that, 555 flour sample, 1680 bread samples, 1200 table salt were collected. Questionnaires were used for collection lot of information. Urine, blood, serum, flour, table salt, bread samples were all analyzed in Ministry of health labs.

**Main findings:** Anemia prevalence among all groups was varied 20%- 31%, iron deficiency 2.7% - 32%, ferritin deficiency 10%-49%, 0%-23%, zinc deficiency 56%-93%, folate deficiency 1%-22%, b12 deficiency 10%- 65.4%, vitamin a deficiency 23%- 73%, β-carotene deficiency 98%-100%, vitamin d deficiency 44%-100%, vitamin e deficiency 22%-80%, gestational or not gestational overweight bmi 33%-40%, gestational obesity bmi 22%-33%, exclusive breastfeeding 53%- 55%, universal underweight (w/a) 3%-4%, universal stunting (l,h/a) 1.5%-11%, universal wasting (w/l,h) 3%-6%, overweight (bmi/a) 11%-23%, obesity (bmi/a) 2%-8%. elevated sodium creatinine in urine 55%, elevated salt in urine 55%, elevated sodium in urine 11%, iodization complies with palestinian technical regulation 6%, iodization more than 15 ppm iodine 72%, positive flour spot test (fortified with iron) 44% positive bread spot test (fortified with iron) 46%, iron flour fortification compliance 30%, positive flour vitamin a 40%, flour fortification complies with palestinian technical regulation 28%, fortified flour 42%., iodine median in urine 193 ppm, table salt consumption (g/day) is 7.

**Word count: 283**

**45. Food security and nutritional status of elementary school girls in a Palestinian camp in Lebanon**

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Abstract submitted by Jowel Choufani on December 15, 2014 [[jc28@aub.edu.lb](mailto:jc28@aub.edu.lb)]

**Background:** As part of an intervention study involving provision of healthy food in schools, baseline data were collected from two elementary schools in a Palestinian refugee camp in Lebanon. The present analysis examines socio-demographic correlates of food security and nutritional status in 5-12 year old girls.

**Methods:** We surveyed 459 girls (ages 5 – 12 years) attending two UNRWA schools and their parents in the Burj el Barajne Palestinian refugee camp in Beirut, Lebanon. Child surveys collected dietary and anthropometric data (height and weight). Parent surveys collected socio-demographic data and administered a 7-item household food security questionnaire. Using STATA (version 13.0), we tested associations between parental education, total monthly income per capita and food-related household assets with food security and child nutritional status. Multivariate logistic regression analyses were used to assess correlates of child nutritional status.

**Findings:** Parents reported food insecurity in 31% of households and 15% were severely food insecure. There was a significant association between paternal ( $p=0.02$ ), but not maternal, education and household food insecurity. Mean total monthly expenditure per capita (\$198 vs. \$163,  $p=0.03$ ) and average number of food-related household assets (3.3 vs. 2.3,  $p<0.01$ ) of non-severely food insecure households were significantly higher than those that were severely food insecure. After adjusting for dietary diversity score, parental education and food-related household assets, household food insecurity was associated with an increase in child stunting (OR=2.9; 95%CI 1.0-8.1).

**Interpretation:** Despite a shared environment, elementary school girls living in households experiencing food insecurity have an increased risk of compromised nutritional status.

**Funding:** The Nestle Foundation

**Word count:** 293

#### **46. Food security and health status of older Palestinian refugees living in Lebanon**

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Corresponding author Hala Ghattas [[hg15@aub.edu.lb](mailto:hg15@aub.edu.lb)]

**Background:** Palestinian refugees in Lebanon (PRL) are marginalized and vulnerable to poverty, poor housing and food insecurity (FI). The recent influx of Palestinian refugees from Syria to Palestinian camps in Lebanon is likely to additionally burden this population, particularly older adults who are at additional risk of various health conditions. We describe the status of older PRL pre-Syria crisis, and provide baseline data against which future assessments of older adults in this population can be compared.

**Methods:** We used data from the 2010 Socio-economic Survey of Palestine Refugees in Lebanon, which surveyed 2501 PRL households including 11,072 individuals. Descriptive variables were summarized for adults aged 60y and above using means and proportions, weighted to take account of the differences in sampling, selection, and response rates. We used Stata 13.0, for both bivariate (adjusted Wald and  $\chi^2$ ) and multivariate analyses (logistic regression) to assess differences in socio-demographic, FI and health status between older adults living alone, versus those living with families.

**Findings:** 11.5% of the population surveyed was aged 60y or above (mean 69.6 y, 95% CI 69.1-70.0), of which 26.8% lived either alone or with one other older adult. 58.1% of older adults were female, 44.1% had never attended school, 59.1% were FI and 53.8% had received welfare or assistance in the last year. 84.9% had a chronic disease with 50.4% having hypertension and 32% diabetes. 10.2% had a disability. In comparison to those living with families, older adults living alone were less likely to be poor (OR=0.27; 0.19-0.38), had lower FI (OR=0.66; 0.47-0.91), higher per-capita expenditure on food (p<0.0001), lower health expenditure, (p<0.0001), and received more welfare (OR=1.58; 1.13-2.20).

**Interpretation:** Older adults who lived alone were better off than those living with families. The additional pressures of hosting families from Syria may compromise the wellbeing of older adults, especially those living with families.

**Word count: 304**

**47. Assessment of feasibility and effect on metabolic outcomes of the WHO PEN approach after 18 months of implementation: A retrospective survey to review an 18-month implementation period of the WHO PEN approach in Salfit district, Palestine**

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Abstract submitted by Venter Wendy on December 15, 2014 [[venterw@who-int](mailto:venterw@who-int)],

Correspondence to: Dr Wendy [[venterw@who-int](mailto:venterw@who-int)]

**Background:** Non-communicable diseases (NCDs) are a major public health issue in Palestine. In 2012 the Ministry of Health (MOH) adopted the World Health Organization's (WHO) Package of Essential NCD Interventions (PEN), to integrate comprehensive NCD care into primary care. The PEN changes NCD care from a vertical to a horizontal approach, where the patient is at the center of care. Patient management is individualized, based on estimation of predicted risk of a major cardiovascular event within 10 years. The PEN was first implemented in Salfit, a rural health district in West Bank, starting January 2013. This review was conducted during July 2014 to assess the ongoing feasibility of the PEN within the Palestinian context and the effect on metabolic parameters. The review assessed 2,198 NCD patients registered in 14 clinics during the first 6 months of implementation. At the time of the review each patient had a minimum of 12 months of follow-up through the program.

**Methodology:** A clinical audit was performed on 392 patient files randomly selected from the 2,198 patients. Indicators of file completeness, staff adherence to protocols, and metabolic outcomes were collected.

**Findings:** The review confirmed that, throughout the period, staff generally followed the PEN protocols. However, problem areas were highlighted, notably risk estimations not done each visit, risk mis-estimations and next visit plans not documented. Comparing metabolic outcomes at first and last visits, patients with Type 2 diabetes mellitus and/or hypertension showed statistically significant improvement of mean fasting blood sugar and mean systolic blood pressure. The percentage of patients with controlled cholesterol levels (<190 mg/dl) also increased.

**Interpretation:** After 18 months of implementation, with minimum follow-up period of 12 months, the PEN's feasibility and association with positive effect on metabolic outcomes in the Palestine context are evident. However, some implementation aspects still need emphasis through ongoing on-site coaching and training.

**Source of Funding:** This audit was conducted in the course of routine work, without additional funding.

**Word count: 304**



**48. 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.**

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Abstract submitted by Ibtisam Titi on Oct 20, 2014 ([Ibtisam.titi@yahoo.com](mailto:Ibtisam.titi@yahoo.com))

**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).

**Results:** 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.

**Conclusion:** 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.

**Words count 300**

**49. The impact of prenatal maternal nutrition and feeding habits on low birth weight in the Gaza Strip, occupied Palestinian territory: a case-control study**

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1: Palestine College of Nursing (PCN); Gaza Strip; Palestine.

2: UNRWA for Palestine Refugees in the Near East, Gaza Strip, occupied Palestinian territory

Abstract submitted by Akram Abu Saolah on November 30, 2014 [[abusalah76@gmail.com](mailto:abusalah76@gmail.com)]

**Background:** Across the entire life span, proper food and good nutrition are essential for survival, physical growth, mental development, performance, productivity, and well-being. Poor prenatal nutrition is recognized as an important cause of low birth weight (LBW) -less than two and a half kilos at birth-. The study aims to assess the association between prenatal maternal nutrition and delivery of LBW infants in the Gaza Strip.

**Methods:** 446 women were selected in ratio 1:1 during May–June and July–August 2007 from attendants of Al-Tahrier Hospital and Shifa Medical Centre, respectively. We computed univariately unadjusted matched odds ratios (mOR) and the 95% CIs with conditional logistic regression. Multivariate analysis of the data was completed in two integrated steps. In model 1, we analyzed prenatal predictors that remained after stepwise backward selection. In model 2, we analyzed the significant variables from model 1 and other principal confounding factors. The confounding variables were geodemographic characteristics: parents' education; occupation; and residence by districts' distribution, income, and maternal body-mass index.

**Results:** Using both univariate and confirming multivariate logistic regression, the study displays a significant linear trend for increased odds of low birth weight with poor and moderate maternal appetite status and small number of ingested meat during pregnancy. Likewise, short distance between maternal meals' ingestion and consumption of tea, and high quantity of coffee intake were independently increasing the likelihood of LBW after adjustment for principal confounders.

**Interpretations:** Our results provide valuable guidance for clinical antenatal work; particularly the identified nutritional prenatal factors are modifiable exposures that could possibly lead to a reduction of delivering LBW infants. Furthermore the emphasis should be given to educational health strategies combined with concrete developmental policies aiming to improve the socioeconomic condition that determines the presence of these diverse health damaging exposures.

**Word count: 294**

**50. Pregnant Women Awareness of Vitamin D Deficiency in Eight Private Clinics in Ramallah District, Palestine.**

**Khaled Tareq Amin Herzallah** , Medical Technologist at Medicare Lab's , Ramallah, West Bank; Dr. Asma Imam PhD, Medicare Lab's, Al-Quds University, East Jerusalem.

Abstract Submitted by Khaled Herzallah on December 3, 2014 [[fsh\\_112@yahoo.com](mailto:fsh_112@yahoo.com)]

**Background:** Vitamin D deficiency (VDD) is a significant problem for a growing proportion in Palestine. Maternal vitamin D deficiency is associated with numerous adverse health conditions. However, most women of childbearing age are vitamin D deficient. It is very important that there should be a concern about scientific and public awareness of vitamin D deficiency's role in pregnant' health status.

**Objectives:** The aim of this study was to assess the level of awareness of vitamin D deficiency among pregnant women in order to identify groups most in need of education and improve their healthcare in eight private clinics in Ramallah district, Palestine.

**Material and Methods:** A self-administered questionnaire was conducted by utilizing a convenient sample of four hundred and sixty ( $n=460$ ) pregnant dwelling in Ramallah area were recruited during the period from September 2013 to December 2013 yielding 98.3% response rate.

**Results:** The study results indicated that most of the respondents (76.1%) ranged between 20-30 years old, 47.2% living in villages. About 78.5% had never heard of vitamin D deficiency while 85.8% believed that vitamin D was important for their health, however grossly, 78.5% of the participants were unaware about VDD.

**Conclusion and recommendations:** This study is the first one about pregnant women awareness of Vitamin D deficiency Arab world, and it provides evidence that vitamin VDD unawareness is prevalent among pregnant women in the study sample. Improving knowledge and public health education to tackle modifiable preconceptions and behavior may be an effective first step toward increasing awareness about VDD, Finally, public health and health promotion campaigns should encompass education as an effective approach in addressing VDD through community networks.

**Word Count: 270**

## **51. Quality of Life among Patients with cancer in Gaza governorates**

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Abstract submitted by Ahmed Shamallakh on December 8, 2014 [[mph.dentist@gmail.com](mailto:mph.dentist@gmail.com)]

**Background:** it is noticed that there is a gap of information about the evaluation of QoL among cancer patients in Gaza Governorates (GGs). In addition, ambiguity for the effect of cancer, and its consequences on their Quality of Life (QoL). And unclear data for patients' needs, due to the lack of qualitative and quantitative studies. For this reason, the current study took place to assess the QoL of cancer patients in GGs and to explore their needs in order to contribute in the improvement of their QoL.

**Methods:** This triangulated cross sectional study was conducted in two main hospitals; Al-Shifa and the European Gaza hospital, in the period of October 2013 to January 2014. Patients (aged 18—96 years) with cancer were selected by convenient sampling. Fourteen patients had in-depth interviews guided with four open-ended questions. EORTC QLQ C-30 V.3 was used to measure the QoL domains for 364 cancer patients, through structured interviews. In addition, the in-depth interviews were analyzed based on the study questions.

**Findings:** The results revealed that the global quality of life (GQoL) was less than half of full score (49.9%). The emotional function had the lowest score (47.7%). The highest score was the cognitive, followed by the social functioning score (67.6%, 59.5%; respectively). Most suffering symptoms were financial difficulties, pain, fatigue and insomnia (64.7%, 60.1%, 59.9%, 58.1%; respectively). The participants' needs were eradication of sympathy and stigma, providing emotional support, financial aid, establishing entertainment facilities, improving health care facilities and lastly, protecting the rights of cancer patients.

**Conclusion:** Most of QoL domains were poor. Stage of cancer, significantly influenced all QoL domains. Moreover, Psycho-oncology facilities, and financial support and awareness campaign to health worker and the people of how cancer patients should be treated should be developed.

**Word count: 288**

## **52. Quality of life of people wounded in the last war (2014) against Gaza Strip**

Nasser Abu-El-Noor, Assistant Professor, College of Nursing, Islamic University of Gaza, Gaza Strip; Ashraf Ajedi, Assistant Professor, College of Nursing, Islamic University of Gaza, Gaza Strip, Palestine; Mysoon Abu-El-Noor, Assistant Professor, College of Nursing, Islamic University of Gaza, Gaza Strip, Palestine.

Abstract submitted by Nasser Abu-El-Noor on December 13 [[naselnoor@iugaza.edu.ps](mailto:naselnoor@iugaza.edu.ps)]

**Background:** In the last six years, Israel waged three wars against Gaza Strip. The last war continued for 51 days during July and August 2014. The war left 2191 deaths and 10895 wounded. About 70% of wounded people were adults.

**Aim:** to assess quality of life (QOL) of people wounded in the last war (2014) on Gaza strip.

**Materials and Methods:** A cross sectional, descriptive design was used in this study. Data collection tools included demographic characteristics sheet and World Health Organization, Quality of Life (WHOQOL-BREF) questionnaire. A convenient sample, using snow ball technique, targeted adults who were wounded in this war.

**Results:** 241 patients participated (156 male and 85 females) in the study. Age of participants ranged between 18 and 76 years (mean 29.4). The majority were married (50.4%). Most of them needed hospitalization (65%). They described their injuries as simple (19.6%), moderate (55.4%), or severe (35%). The majority (66.7%) had no disability and only 13% of them had a preexisting health condition.

Mean scores for the main domains of QOL were very low; Overall QOL 3.97 (maximum 8), Physical 12.98 (maximum 28), Psychological 11.68 (maximum 24), social relations 6.64 (maximum 12), and environment 11.70 (maximum 32).

Several variables (age, hospitalization, severity of injury, causing disability, demolishing participants' houses) had impacted level of some or all domains of QOL. Meanwhile; sex, marital status, and place of living didn't influence QOL.

**Conclusion:** the last war waged against Gaza Strip left many people who were killed or injured. The scores of QOL for those who were wounded were very low in all domains of QOL. These results should call the attention of health policy makers to take prompt actions to improve QOL of this group of people.

**Word count: 285**

53. **The associated factors for health and life satisfaction among Palestinian university students**

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Abstract submitted by Lara Abu Sara (Corresponding Author) on December 15, 2014

[[Email:abusaralara@gmail.com](mailto:abusaralara@gmail.com)]

**Background:** Palestinians have lived through more than 10 decades of conflict which has had detrimental impacts on their communities. Past public health research on these communities focused on physical health—mortality, injury, disability, and other physical health problems—with little attention to psychosocial health, especially among the youth. This study investigates psychosocial health among Palestinian university students, assessing determinants affecting their life and health satisfaction.

**Methodology:** This cross-sectional study conducted face-to-face interviews with a convenient sample of 572 universities students in the West Bank—284 from Birzeit University and 288 from Bethlehem University. The survey instrument was developed by the researchers and included questions about subjective life and health satisfaction (LHS), which were coded into a single LHS variable (Cronbach Alpha=0.73). A bivariate analysis was conducted between LHS and independent variables (socioeconomic factors, desires of migration, subjective well-being, and others). Significant results were entered into a logistic regression model controlling for confounders.

**Results:** 65.4% of those sampled had good health and life satisfaction. Females were more likely to be satisfied than males (75.5% to 55.5%, respectively, OR= 2.054. Nonrefugee students were more satisfied than refugees (68.2% to 52.9%, OR= 1.826); while students not wanting to emigrate were more likely to be satisfied than students wanting to emigrate (OR= 1.693). Non-smokers have a higher satisfaction than smokers (73.2%, 52.9% respectively, OR= 1.898), and students with higher subjective well-being had greater health and life satisfaction ( OR=2.851).

**Interpretation:** These results identify male, refugee, and smoker university students at risk of lower LHS. Those with mothers and fathers not working also had lower LHS, suggesting that low LHS is tied to familial poverty. The local government should establish youth programs in the West Bank targeting male refugees that aim to improve their overall wellbeing and projects that alleviate poverty conditions.

**Word count: 297**

**54. Assessment of the Impact of Health Education Intervention on Knowledge, Quality of Life and Clinical Control among Patients with Bronchial Asthma in a Primary Health Care setting in the Gaza strip,**

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Abstract submitted by Imad El Awour on December 15, 2014 [ [i.el-aour@unrwa.org](mailto:i.el-aour@unrwa.org) or [imadismael@ymail.com](mailto:imadismael@ymail.com)]

**Background:** The burden of Bronchial Asthma in Palestine is not negligible; however, there is a scanty knowledge about the effects of different interventions, including health education, on this burden. The aim of this study is to assess the impact of health education intervention on knowledge, clinical control and quality of life of asthmatic patients, thus improving their management.

**Methods:** A pre-post intervention design study with three months interval was conducted from April to September, 2013 among 75 asthmatic patients attending North Gaza Health Center using Elizabeth Juniper's asthma knowledge, mini-quality life, and asthma control questionnaires. Two educational intervention sessions a week (lecture, video, and demonstrations) for a 15 patients group were conducted. The mean percentage total score, paired T test; McNamara's tests were calculated to evaluate the difference. An informed consent and the institutional board approval were obtained.

**Findings:** The majority of participants had moderate bronchial asthma (57.3%), 16% having chronic disease (hypertension, diabetes) and was hospitalized at least once in the last year (64%). Among those who completed the three questionnaires(21), pre-post mean percentage total score of asthma control was 53.3%,63.5%, mini-quality life, 52.7%, 46.4% respectively, with significant change in asthma control (pre mean score 12, post mean score 14.3, P=0.03), while no significant change was observed in asthma knowledge (pre mean score 13, post mean score 12.9, P 0.7) and mini-quality life (pre mean score 55.4, post mean score 48.4, P=0.14) respectively. Following intervention significant correlations were found between total score asthma knowledge and asthma control, asthma control and mini-quality life( $r=0.48$ ,  $P=0.000$ ,  $r=0.57$ ,  $P=0.006$ ) respectively.

**Interpretation:** The impact of health education inside the health center could improve asthma control despite no significant change in asthma knowledge was observed .A well-structured health education reinforced by health providers would achieve effective self-management care.

**Word count:** 293

## 55. Palestinian factionalism and social welfare

Taylor Long, a PhD candidate in Social Work and Political Science at the University of Michigan  
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Abstract submitted by Taylor Long on December 15, 2014 [[tlong@umich.edu](mailto:tlong@umich.edu)]

Drawing off original survey data from four Palestinian refugee camps in Lebanon (n = 1,589), this presentation proposes and evaluates a spatial theory of factional clientelism, demonstrating how the provision of social welfare and other ‘government-like’ services provided by the Palestinian factions is conditioned on the contestation between factions to establish or maintain physical control over specific neighborhoods within the camps.

**Background:** Palestinian refugees in Lebanon depend on social welfare and other services provided by a multitude of Palestinian factions, in addition to assistance provided by UNRWA and other non-governmental organizations (NGOs) to Palestinian refugees residing outside of Palestine. Yet, why the Palestinian factions rely on spending on clientelistic practices such as these, in the absence of elections in the camps, remains unexplained.

**Methods:** With geocoded survey data obtained via Random Grid Sampling (RGS) in the `Ayn al-Hilweh, Beddawi, Bourj al-Barajneh and Jalil/Wavel refugee camps in Lebanon, this analysis assesses the degree of spatial dependence between the receipt of aid from the Palestinian factions and (a) the factionalism ‘intensity’ of camp residents and (b) factionalism ‘direction’, i.e., support for specific factions for each respondent, controlling for other factors which might also plausibly explain the receipt of aid from factions.

**Findings:** Findings from this survey suggest that, for Palestinian refugees in Lebanon, the relationship between receiving health and other social welfare assistance from the Palestinian factions and supporting a specific faction is much more likely to be a function of strategic choice and within-camp geography than it is to be a function of ideology. Ordinary Palestinian refugees in Lebanon are not, in fact, highly ideologically factional but are rather more likely to support those factions that maintain physical control (and provide health and social welfare services) in the areas or neighborhoods they control.

**Funding:** The British Embassy in Beirut

**Word count:** 292



## **56. Factors Related To Poor Hypertension Control in West-Bank**

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Abstract Submitted by Maher Khmour on October 21, 2014 ([maher.khmour@gmail.com](mailto:maher.khmour@gmail.com))

**Background:** Poor control of hypertension is common in West-Bank, but its causes are not always easy to discern and thus are often not readily corrected

**Methods:** Palestinian Hypertension Project (PHP) is cross-sectional survey. Two-stage stratified sampling method was used to select 2077 participants from the general population aged 25 years and over attended six primary care settings across West-Bank. Trained observers obtained Two Blood Pressure (BP) measurements from each person by use of a standardized mercury sphygmomanometer. We concomitantly conducted comprehensive patient interviews covering socio-geographical factors, anti-hypertensive medications, adverse effects, adherence to drug regimens and other clinical data obtained using a standard questionnaire.

**Findings:** The overall prevalence of hypertension was 27.6%, with a higher percentage among men (29.2 vs 26.4%;  $P=0.02$ ). Of the 40% of people with hypertension who are aware and treated, only one third are "controlled" BP  $<140/90$ , yielding a net control rate of 13.3%. Those who are "uncontrolled" had high systolic blood pressure rather than diastolic pressure (59 vs 41%;  $P<0.01$ ). 60% of uncontrolled hypertension found to be non-adherent to their drug regimen, 28% experience adverse effects and 56% were found to be on monotherapy. There was no statistically significant in difference in sex distribution, marital status and educational level between controlled and uncontrolled hypertension. Multivariate analysis revealed several independent predictors of poor hypertension control; being on monotherapy regimen [OR=2.14, 95% CI 2.77-3.10], being obese BMI  $> 30$  [OR=1.80, 95% CI 1.44-2.46], being non adherence to antihypertensive drugs [OR=2.67, 95% CI 2.34-3.11] and older age  $> 65$  [OR=2.12, 95% CI 1.78-2.86].

**Interpretation:** The prevalence of hypertension is high and remains poorly controlled in clinical Practice in West Bank. Physicians should aggressively treat elevated systolic BP. A number of factors contribute to poor control of hypertension including Non-adherence to drug regimens, frustration with treatment and obesity.

**Word count: 297**

### **57. Knowledge of sexually transmitted diseases among Palestinian youth**

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Abstract submitted by Hiba Darwish on December 13, 2014 [[hibadarwish2011@gmail.com](mailto:hibadarwish2011@gmail.com)]

**Background:** Sexually Transmitted Diseases (STDs) are an important reason for adults seeking health care in developing countries, given inadequate knowledge about such diseases. This study assesses the STDs knowledge level among Palestinian youth 14-30 years old.

**Methods:** The Palestinian Family Health Survey 2010 from the Palestinian Central Bureau of Statistics included questions to youth on STDs knowledge, including Syphilis, Gonorrhoea, fungal infections and genital warts. A scale was developed using these questions with an internal consistency  $\alpha=0.62$ . The scale was recorded to: no knowledge and knowledge of at least one disease. Bivariate analysis was completed using SPSS to assess the relation between knowing any STDs and age, sex, region, locality, wealth index, educational attainment, marital and work status. Significant associations were included in a regression model to check confounders.

**Findings:** 4402 households were included. 1675(38.1%) youth knew at least one of these diseases, the rest none. Logistic regression analysis revealed that Gaza youth were less likely to know STDs compared with West Bankers (OR=0.658, 95%CI=0.573-0.754). Females were more likely to know STDs compared to males (OR=1.164, 95%CI=1.019-1.33). 19-23years old (OR=1.465, 95%CI=1.246-1.723) and 24-30years old youth (OR=1.315, 95%CI=1.11-1.557) were more likely to know STDs compared to those 14-18 years. Youth with more than 12 years of education (OR=10.873, 95%CI=5.842-20.225) and 12 years or less (OR=4.24, 95%CI=2.342-7.677) were more likely to know STDs compared to illiterates. Youth not working were more likely to know STDs compared to workers (OR=4.971, 95%CI=4.06-6.087). Youth from better off families (OR=1.995, 95%CI=1.603-2.483) and middle class (OR=1.293, 95%CI=1.084-1.541) were more likely to know STDs compared to the poor.

**Interpretation** Knowledge of STDs was less among younger illiterate males, the poor, Gaza youth, and the worker. A provision of information to young people is needed through education, developing health care services and communication strategies to focus on raising awareness on STDs.

**Word count: 303**

**58. Prevalence of Salmonella in different poultry and meat food products in Hebron district: a prevalence study**

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**Background:** Salmonella continues to be a leading cause of food-borne enteric disease in many countries and is responsible for significant human suffering, loss of productivity, and mortality. Although the disease is underreported, an estimated 1.4 million people were affected in 2008 in the United States, with an overall health cost of \$2.6 billion. Poultry meat is a significant vehicle of food-borne Salmonella infections in humans, the true proportion of all salmonellosis cases that are associated with poultry consumption.

In this paper we aimed to estimate the prevalence of Salmonella in different poultry and meat food products in Hebron district including raw precooked and cooked food products.

**Methods:** Based on routine duty of the environmental health inspectors in Hebron Public Health Directorate every week. A total of 61 poultry and meat production (sausage, grilled chicken, cooked shawerma, chicken turkey, steak turkey, boneless chicken, frozen chicken, spiced not cooked shawerma, and snitchel) were randomly collected from different sources (i.e. restaurants, universities, and hospitals) and transported to the central public health laboratory (CPHL) in Ramallah in portable, insulated cold-boxes. Amongst of these samples, they were 12 cooked and 49 samples were raw or ready to be cooked. All salmonella tests were conducted by the team at the CPHL.

**Findings:** Results show that the overall prevalence of positive samples for salmonella was 11.5%. Positive samples included frozen chicken (3.2%) snitchel (3.2%), turkey (4.9%).

**Interpretation:** No salmonella was found among all cooked samples (15 samples) which means that well cooking can eliminate contamination with salmonella. Further spread of salmonella may occur during processing due to cross-contamination. However, determination of the true risk to public health from Salmonella-contaminated poultry meat and the benefit of reducing contamination are complicated by a number of factors starting from the farm ending by the fork.

**Word count: 294**

## **59. Changing Trends and Future prediction of Antimicrobial Resistance in Palestine**

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Abstract submitted by Ahmed Mohammad Ali Zaid on December 15, 2014

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**Background:** Resistance to antibiotics is a growing global problem. Information about bacterial susceptibility in certain country helps in predicting, prevention and controlling resistance. We tried to describe the important trends in antimicrobial susceptibility to provide useful information to clinicians, policy makers and industry, to assist in optimizing antimicrobial therapy, formulary choices and drug development.

**Methods:** We analyzed longitudinal data over the last 14 years in Medicare laboratories database. Descriptive analysis for the frequency and cross tabulation of the Antibiotic non-susceptibility results was performed by SPSS. We performed time series analysis for the significant trends by measuring the impact of time on antimicrobial resistance. Regression equations for all significant trends were used to predict resistance for the up-coming 5 years.

**Findings:** 12,125 samples were included. We identified several key changes in drug resistance in many antibiotics that are extensively used in West Bank. In particular, we observed a statistically significant increase in the proportion of resistance for Levofloxacin, Amoxi/clavulanic acid, Ciprofloxacin, Ceftriaxone, Ceftazidime, SMX/TMP, and Nitrofurantoin as determined by R-Square results.

**Discussion:** The trends are dramatic such as for fluoroquinolones and third generation cephalosporins. Some of these trends may be due to the global spread of resistant strains worldwide. On the other hand, we found that antibiotics are confronting an accelerating resistance development which seems much higher than that explained by the evolutionary process of bacteria in some other parts of the world. The important selective pressures due to antibiotic abuse in Palestine threaten the usage of many antibiotics in the up-coming 5 years if no preventive measures are taken to correct the actual trends.

**Word count: 264**

## **60. End Stage Renal Disease In Gaza Governorates And Its Relationship To Risk Factors**

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Abstract submitted by Hammoda Abu-Odah on December 15, 2014 [[hamm\\_oda@hotmail.com](mailto:hamm_oda@hotmail.com)]

**Background:** End stage renal failure (ESRF) is an important cause of morbidity and mortality globally. Understanding the risk factors of ESRF can help identify preventive strategies. The main objective of this study was to determine the risk factors of end-stage renal failure among patients undergoing hemodialysis in Gaza Governorates.

**Methods:** Retrospective-hospital based-case control study performed on patients with ESRF, at Ministry of Health Hospitals (N=264), proportional stratified random sample used for sample selection (n=132) cases matched with sex, age, and locality to 132 control were chosen. Data was collected using a questionnaire including socio-demographic, medical history, and life style and additional data were obtained from medical record. Collected data was analyzed using SPSS V1 9.

**Results:** The most common risk factors associated with End Stage Renal Failure were hypertension (42.4% versus 20.5%) and diabetes mellitus (28% versus 16.7%). Kidney stone (21.2% versus 4.5%), urinary tract infection (65.9% versus 27.3%) and glomerulonephritis (19.7% versus 6.1%) follow it. For medications analgesic drug formed among cases and controls (22% versus 9.1%). For smoking it was (47.7% versus 23.5%), obesity (41.7% versus 34.1%), anxiety (17.4% versus 6.1%). For low activity (48.5% versus 28%), primary educational level (95.1% versus 39.4%), low household income (76.5% versus 59.1%), family history (70.5% versus 47.7%). A multiple logistic regression controlling for age, gender, and location showed that significant predictors of end-stage renal failure were hypertension, glomerulonephritis, and obesity.

**Conclusion:** This study suggests that most of the identified risk factors are preventable by easy ways as screening of highly risk people and encourage health life style.

**Word count: 256**

## **61. PR, ER, Her2, and P53 Expression & Correlation between Primary and Metastatic Breast Cancer**

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Abstract submitted by Rola Khair on December 15, 2014 [[rola\\_pharm@hotmail.co.uk](mailto:rola_pharm@hotmail.co.uk)]

**Background:** Breast cancer is the leading cause of cancer death among women worldwide. In Palestine, breast cancer was the highest-reported cancer among both women and the general Palestinian population in 2011. It has been found that Palestinian women attend the clinics with aggressive and metastatic breast cancer, trying to find an explanation might related to rapid conversion in specific receptor genes between the primary and the metastatic statuses. Assessment of prognostic molecular markers receptors [estrogen receptor (ER), progesterone receptor (PR) and human epidermal growth factor receptor 2 (HER2)] is a recommended tests; P53 protein expression is an important prognostic marker links in developing malignancy, investigating P53 correlation with the mentioned prognostic markers might explain the mystery of the rapid deterioration to metastasis in Palestinian women diagnosed with breast cancer.

**Methods and Materials:** A retrospective study done on 34 female patients with lymph nodes metastasis, both expression statuses in primary and metastatic tumors were assessed for ER, PR, HER2 and p53 by Immunohistochemistry, the biopsy sites were the primary tumor in the breast itself and the metastatic lymph nodes.

**Findings:** drop changes in positivity rates were seen in PR ( 74% / 47% ), ER ( 74% / 50% ), Her2 ( 24% / 21% ) and P53 (56% / 53%) , in which these changes were significant only in case of PR expression, positive correlation seen in p53 primary tumor and HER2 primary expression .

**Interpretation:** Results highlighted the need for further research and to perform a retrospective analysis on larger number of patients since the incidence of breast cancer in Palestine is about 300 case/year, nearly 50% present with metastasis according to the Palestinian Cancer Registry 2011 statistics, so the sample that will represent the population should be near to 150 cases.

**Word count: 299**

## **62. Factors associated with self-rated health among elderly Palestinian women**

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Abstract submitted by Haya Shojaia on December 14, 2014 (corresponding Author)

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**Background:** Self-rated health (SRH) consider as an indicator that predicts mortality and social inequalities. Recently, the life expectancy for women increased as a part of the worldwide demographic transition. This study examines the determinants in SRH among the elderly Palestinian women.

**Methods:** The Palestinian Central Bureau of Statistics performed a survey in 2010. A question about SRH for women aged 60 years and over was included. Answers were presented within a quintile scale range from excellent to poor. The scale was recoded into a dichotomous measure; good” excellent, very good, average “and poor “less than good and bad health”. Bivariate analysis assessing the relationship between sociodemographic variables and SRH was completed using SPSS. Significant associations included in a binary regression model to check for confounders.

**Findings:** 1998 household were surveyed, 1138(57%) of the elderly women rated their health as good and 860(43%) as poor. Regression results revealed that women aged 70 years and over (OR=1.587, 95%CI=1.3-1.938) were more likely to rate their health as poor compared with whom aged 60-69 years. Women had greater than secondary education (OR=0.317, 95%CI=0.162-0.622) and preparatory to secondary education (OR=0.499, 95%CI=0.399-0.735) were less likely to have poor SRH compared to who complete elementary school or below. Women had at least one disease were more likely to have poor SRH compared with healthy women (OR=2.763, 95%CI=2.18-3.503). Elderly with not comfortable house conditions were more likely to have poor SRH (OR=1.83, 95%CI=1.402-2.390). Women within better-off families were less likely to have poor SRH compared to the poor (OR=0.629, 95%CI=0.453-0.874).

**Interpretation:** The results indicate the need for efforts to promote the quality of life among Palestinian elderly women through the collaboration between health, social, and economic sectors.

**Word count: 281**

**63. Inequalities in self-reported health and self-reported illness among women aged 15-54 in the oPt**

Katie Bates, London School of Economics, UK; Tiziana Leone, London School of Economics, UK; Ernestina Coast, London School of Economics, UK; Rita Giacaman, Institute of Community and Public Health, Birzeit University; Rula Ghandour, Institute of Community and Public Health, Birzeit University; Sawsan Imseeh, Institute of Community and Public Health, Birzeit University; Suzan Mitwalli, Institute of Community and Public Health, Birzeit University; Shiraz Nasr, Institute of Community and Public Health, Birzeit University

Abstract submitted by Katie Bates on December 15, 2014 [[K.M.Bates@lse.ac.uk](mailto:K.M.Bates@lse.ac.uk)]

**Background:** Whilst much literature focuses on the ability of indicators of self-reported health to predict mortality, the linkage between self-rated health and self-reported illness remains understudied, especially in low and middle income countries. We investigate the consistency between self-reported health (SRH) and self-reported illness (SRI) by socio-demographic characteristics among women in the occupied Palestinian territory (oPt).

**Methods:** Using logistic regression we analyzed data from the PHS, for women aged 15-54, to investigate socioeconomic and demographic inequalities in reporting poor SRH and chronic or acute illness.

**Findings:** Socioeconomic inequalities exist in SRH and SRI among women in Palestine. These inequalities are consistent across both SRH and SRI. Women with completed secondary or tertiary education are less likely to report poor SRH, acute illness or chronic disease than those lower levels of education. Women from the lowest wealth quintile are more likely to report poor SRH, acute and chronic illness compared to richer women.

Regional disparities exist, but are not consistent across SRH and SRI. Women from Gaza are less likely to report poor SRH compared to women from all other regions (North, Central and South West Bank). For SRI, Gazans report less illness than women in North West Bank.

Women report better SRH in rural than urban areas. Women in urban areas and refugee camps are more likely to report a chronic illness than in rural areas. The odds of a woman reporting acute illness are higher in refugee camps than rural areas.

**Interpretation:** Clear within- and between- disparities exist in SRH and SRI in Palestine. These disparities are both socioeconomic and cultural; they need to be accounted for when analyzing Palestinian data. Regional disparities are not negligible and need to be accounted for when considering health service interventions in the country.

**Word count: 291**



#### **64. Wellbeing and Associated Factors in an Area C community on the West Bank: A Cross Sectional Study**

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Abstract submitted by Jeda Jasser on December 12, 2014 [[Jeda\\_Jasser@yahoo.com](mailto:Jeda_Jasser@yahoo.com)]

**Background:** Wellbeing is influenced by several factors including living conditions. In Palestine Area C communities are under total Israeli administrative and security control, and comprise about 60% of the West Bank. UN reports indicate that area C populations are considered most susceptible to expulsion and sustenance interruption. This study aims to assess the relation between wellbeing among Area C community and associated factors.

**Methods:** Cross sectional survey with a systematic random sample of 426 adults representing half of the households in this community, with a high response rate(96.9%). Questionnaire was designed following focus group discussions to highlight the particular context of the community, and included security and distress questions developed by ICPH and published internationally, and the WHO-5 wellbeing Index with 50 as cut off point. Descriptive statistics followed by multivariate binary logistic regression to test for confounders were performed using SPSS (17).

**Results:** 413 persons were included: 200 men (48.4%) and 213 women (51.6%). (41.4%) reported moderate and high level of wellbeing. There were no differences by sex and age. Lower wellbeing was associated with the presence of one or more elderly at home compared to those with no elderly at home (OR: 0.467 95% CI 0.221 - 0.987)(P = 0.046) and among families with crowded homes(more than 3 members at home) compared to those with lower crowding ratios (OR: 0.225 95% CI 0.084- 0.603) (P-value= 0.003).

**Interpretation:** lower wellbeing is prevalent among families with higher crowding ratios and with one or more elderly at home, and are likely linked with poverty(high level of care, high dependency and low socioeconomic status). High crowding ratios at home may be linked to the special conditions found in Area C where building permits are difficult to obtain from the Israeli military. Further studies addressing life conditions in area C are recommended to investigate the effects of these factors on well-being.

**Word count: 299**

## **65. The Status of Wellbeing in Gaza Governorates: Correlates and Implications.**

Nadia Al Bayoumi and Bassam Abu Hamad, Al Quds University, Palestine

Abstract submitted by Nadia Bayoumi on December 15, 2014 [[nadia.bayoumi@crs.org](mailto:nadia.bayoumi@crs.org)]

Universally, there is a growing interest in studying wellbeing for its positive societal and personal outcomes. The literature associates happiness with long term sustainable development. In Gaza governorates, wellbeing knowledge gap worth bridging.

A mixed-method data triangulation approach with multistage cluster sampling identified 627 respondents aged 15 to 65 years who provided quantitative data in September 2013. Then, qualitative inputs from focus group discussions enriched and explained the findings. The World Health Organization Six Domain Quality of Life Instrument was applied and found highly reliable (Cronbach's Alpha 0.937). Analysis used statistical software and open thematic coding techniques.

Findings reveal 67.6% of participants were married and 30.6% were working at the time of data collection. Monthly earning of 2/3 is less than NIS 1600. Around 83.2% thought they enjoy good health, while 17.2% reported having chronic diseases, and 7.8% reported having disability within their households. Respondents experienced more psychological (mean=6.5) than physical (mean=3.7) un-healthy days. Around 22% of respondents thought people around are happier, and 35.4% declared supporting certain political parties. Security-wise, 36.2% of respondents were seriously worried about the consequences of military attacks.

Average wellbeing was 73.2% (moderate). It varied between groups; males, younger, more educated, employed, economically advantaged, politically affiliated, people practiced volunteerism, smaller families and healthier respondents had elicited higher wellbeing (P value less than 0.05). Interestingly, regression analysis shows that perceptions about health status were the single best predictor of wellbeing. It contributed solely to 28% of the overall wellbeing.

Interventions intend to enhance wellbeing entail proactive dialogue around wellbeing, promoting psycho-social status, tackling environmental and livelihood impediments, and faithfully pursuing greater citizens' involvement.

**Word count: 267**

## 66. Aggression and violence against workers in emergency departments in Palestine

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**Background:** Workplace violence (WPV) in hospital emergency departments (EDs) is a common problem. The objective of this study was to assess the characteristics (level and type), associated risk factors, causes, and consequences of WPV against workers in Palestinian EDs.

**Methods:** Cross-sectional study conducted in 14 EDs; 8 from the West Bank and 6 from Gaza Strip. Data were collected using a self-administered questionnaire between July-September 2013. Multivariate logistic regression models were used to examine risk factors associated with exposure to WPV.

**Findings:** A total of 444 participants (response rate 74.5%): 161(32.0%) nurses, 142(32%) physicians, and 141(31.7%) administrative personnel. The majority (76.1%) experienced a type of WPV in the past 12 month; 35.6% to physical and 71.2% to non-physical violence (69.8% verbal abuses, 48.4% threats, and 8.6% sexual harassments). Perpetrators of violence were mainly patients' families/visitors. Waiting time, lack of prevention measures, and unmet expectations of patients and their families are the main reasons for WPV. The multivariate regression analysis showed that younger personnel (OR=2.2 CI 95% 1.28-3.87), nurses and physicians (OR=1.72 CI 95% 1.06-2.80), and less experienced EDs personnel (OR=2.46 CI 95% 1.18-5.13) are significantly at higher risk of exposure to WPV (P<0.05). Low level (40%) of violence reporting is evident, largely attributed to no enough actions being taken and fears of consequences. Violence has been shown to have considerable consequences for workers well-being, patient care, and for jobs retention.

**Interpretations/conclusions:** Violence against workers in Palestinian EDs is highly common, and its effects on workers are considerable. Hospitals should give attention to strengthening violence prevention policy and measures.

**Word Count: 258**

**67. Childhood obesity in East Jerusalem, occupied Palestinian territory (oPt).**

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Abstract submitted by Narmeen El Haj Yassin on December 13, 2014

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**Background:** childhood obesity is an important health threat that is growing rapidly worldwide especially in developing countries. In the Mediterranean region, the prevalence of obesity ranges from 7-45%, with estimates that an overweight child has 70 -77% risk of becoming obese in adulthood. Several factors are associated with obesity among children including diet, physical activity and socio-economic status.

This study estimates the prevalence of obesity and associated factors among schoolchildren (first & sixth grades)-in private & governmental schools in East Jerusalem.

**Methods:** cross-sectional study conducted in last quarter of 2014 in East Jerusalem. Four governmental and private schools of a total of 151 schools in East Jerusalem were selected randomly. Approvals were obtained to conduct the study. Three hundred ninety five students were included with equal gender distribution. Sixth-grade students' anthropometric measurements were taken, while first grade students' measurements were available at school for that year. Questionnaires were sent to the mothers of both grades' students to collect information on children's diet. Data analysis was completed using SPSS.

**Results:** response rate was 54%. Childhood obesity was higher among private (20.2%) compared to governmental schools (13%). 4.1% and 2.6% of first and 10.4% and 14.4% of sixth graders were overweight and obese respectively. Mother's education of first grade students in all schools and private schools' students who were breastfed were inversely related to Body Mass Index (BMI). Positive associations were found between BMI and olive oil consumption for the first grade students and the student's age in private schools.

**Conclusion:** Overweight and obesity among East Jerusalem school students rises with age and is more prevalent in private schools. Mother's education and diet seem to also be associated factors. The results point to the need to pay special attention to obesity among children in East Jerusalem schools.

**Word count: 295**

**68. Health workers in danger in the occupied Palestinian territory in 2014**

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Abstract submitted by Anita Vitulo (corresponding author) on December 15, 2014

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**Background:** Violence against patients, health care personnel and facilities affects population health and has health consequences. Recent literature notes global deterioration in respect for international humanitarian law protections for health. The ICRC reported 1800 incidents of violence against health workers in 2013. In the occupied Palestinian territories, three military operations in Gaza since 2008 caused thousands of casualties, including to health personnel, and damage to 34 hospitals, 105 health clinics and 84 ambulances. Health workers in the West Bank are also affected by chronic access difficulties due to violence and movement restrictions.

**Methodology:** 24 key informants were suggested by health providers and contacted for interviews; 16 consented (8 paramedics, 5 nurses, 2 physicians, 1 pharmacist), 5 declined and 3 were unavailable. A semi-structured questionnaire was piloted, data collected and coded [in progress] for emerging themes about access, risks, and damage/injuries. West Bank incidents were followed up with interviews of health workers.

**Results:** The main health worker casualty group was paramedics, 13 of 23 deaths (19M; 4F) and 76 of 78 injured (77M; 1F). Most deaths were MoH employees (11), and injured were Civil Defense (36) and Palestinian Red Crescent (36) paramedics. Recorded incidents were geographically widespread.

Gaza interviewees noted being displaced to seek safe shelter or safe access to work, high stress from volume and condition of casualties, insufficient resources, family/colleague losses, lack of transport, extended shifts and constant risk to personal/family security from perceived randomness of violence.

In the West Bank a physician died and a hospital floor was evacuated after teargas was used in/near health facilities.

**Discussion:** The right to health is insecure for all in the occupied Palestinian territory, including health workers and facilities, especially during military violence. A human rights approach based on international legal obligations should be advocated with all duty-bearers to protect health under occupation.

**Word count: 302**

**69. Attitudes of Palestinian medical students on barriers to access of hospital sites of clerkship training.**

Sarrah Shahawy, Harvard Medical School student, USA

Abstract submitted by Sarrah Shahawy on December 15, 2014

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**Background:** While some studies have been conducted on the problems Palestinian patients face in accessing health care, there are currently no studies on Palestinian medical students and the geographic and political barriers they face in accessing hospital sites of training. This study explores these barriers to access by Palestinian medical students to hospitals throughout the West Bank and in Jerusalem, and how these barriers affect education, training, and quality of life.

**Methods:** AlQuds University medical students from years 4-6 and graduates were recruited to fill out a questionnaire exploring students' experience applying for permits to access hospital sites of training and crossing checkpoints to reach hospitals, and how these and other barriers to access affect medical education and quality of life. Focus group interviews were also conducted with open-ended questions on similar issues.

**Findings:** To date, 30 students have filled out the survey and 30 participated in focus groups. The majority of students carry West Bank ID's. 9 of the students interviewed had their permit applications to Jerusalem denied and so were unable to rotate at any of the Jerusalem hospitals, a major barrier to education during critical rotations. Another significant barrier regardless of ID type included extremely long commute times to hospitals, mostly due to crossing checkpoints and being searched en-route to hospitals. All felt that these barriers affected their education, training and quality of life, identifying increased stress, less study time, and the need to rotate at more accessible hospitals as examples.

**Interpretation:** These results point to the significant impact that the realities of occupation have on the education and quality of life of Palestinian medical students, who are restricted either by permit denial or checkpoints from comfortably reaching their desired hospital sites for training.

**Acknowledgements:** The World Health Organization, Jerusalem, for funding this work.

**Word count: 287**

**70. Knowledge of occupational safety precautions among nurses in the hospitals of the Nablus District, Palestine**

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Abstract submitted by Shatha Mansour [[n\\_face\\_2000@yahoo.com](mailto:n_face_2000@yahoo.com) ]

**Background:** In Palestine, the prevalence of needle stick injuries in hospitals is high, especially among nurses. The aim of this study was to identify the prevalence and determinants of exposure to occupational hazards and to estimate the level of knowledge of occupational safety precautions among nurses in hospitals in the Nablus District, Palestine.

**Methods:** The study design was a descriptive, analytical survey with nurses (N=332) working at: Rafidia Governmental Hospital, Al-Watani National Governmental Hospital, the Al-Ittihad Hospital (Charitable), and the Arabic Specialized Private Hospital in the Nablus District, Palestine.

**Findings:** The prevalence of exposure to blood and body fluids (BBFs) was 51.7%. Exposure to BBFs was associated with working in private and charitable hospitals (OR= 2.620 and OR= 2.678, respectively), having 4-6 family members (OR= 0.522) and nursing being a top career choice (OR=0.479). The prevalence of the likelihood of being exposed to BBFs was 62.2% and it was association with working in charitable and private hospitals (OR= 7.810 and OR=2.431 respectively) and nursing being the top career choice (OR= 0.572). As for the level of knowledge, 87.6% of the respondents found it necessary to generally enact laws and regulations regarding occupational safety precautions, 93.4% think the use of a sharps container is prescribed, 96.4% think that immediate disinfection after an accident is prescribed, 99.4% think that reporting an accident is prescribed and 84.5% think that using personal protective equipment is always prescribed.

**Interpretations/conclusions:** Overall, the nurses had adequate knowledge of the risks linked to their hospital work. It is recommended that future studies re-evaluate existing occupational safety guidelines in hospitals and healthcare centers, establish monitoring and evaluation protocols to ensure the adherence to the guidelines by the healthcare workers and institute a well-defined policy for reporting incidents of occupational injuries so they can be handled appropriately.

**Word count: 296**

**71. Determinants of municipal solid waste management[MSWM] in the occupied Palestinian Territory (oPT).**

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Abstract submitted by Hendia Abu Nabaa on December 13, 2014 [[hendyaabunabaa@yahoo.com](mailto:hendyaabunabaa@yahoo.com)]

**Background:** MSWM proved to be perfect in achieving sustainable development among the developing countries. In oPt tremendous issues needed to be resolved combined with limited technical, managerial and financial resources added to the political occupational issue.

**Methodology:** based on collecting quantitative data through a field survey on representing randomized stratified three stage sample of 1882 men and women over 18 years who lives routinely in WB and the Gaza Strip in 2010- were asked about the current status of household solid waste, and their willing to treat food and organic waste. Qualitative data were also collected through fifteen focus groups with that we were able to take the opinions of a broad public sector people representing most of the Palestinian that helps in explaining and deepens the results.

**Results:** revealed an interesting trend; Gaza citizens showed the least desire to encourage composting or reusing of MSW. And that rural and camp dwellers were more likely to encourage reuse or compost organic wastes at home. Furthermore, affluent respondents were less likely desirous to encourage composting or reusing MSWs. Also there were positive relationship between educational attainment and the participants' ability to encourage composting or reusing MSW. Three member families were less willing to convert MSW into humus than 1-2 member families.

**Interpretations:** Singling out Gaza, they were undesired convert the organic MSW into compost, or to reuse MSW. This highlighted the need to have specialized programs that rehabilitate the whole system of MSW in Gaza region. Finally, a regional and national support is needed to help in implementing the already established policy for managing the SW, which is efficient and sustainable, but not yet politically acceptable from the occupation side as most of the projects on SWM is planned on areas under Israeli military control that forbidden Palestinian from using it.

**Word count: 300**



## **72. The impact of oral intake of Dydrogesterone on fetal heart development during early pregnancy**

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2. Dr Emad Aslem, MSc. Pediatric Cardiology Department, Abd Al Aziz Al Rantisi Specialist Pediatric Hospital, Gaza, Palestine.
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6. Prof Daniel De Wolf, PHD. Pediatric Cardiology Department, University Hospital UZ Gent, De Pintelaan 185, Ghent, Belgium.

Abstract Submitted by Mahmoud Zaqout on October 19, 2014 [[dr\\_mahmoud9@hotmail.com](mailto:dr_mahmoud9@hotmail.com)]

**Background:** The birth incidence of congenital heart disease in the Gaza Strip in 2010 is 10 per 1000. The genetic etiology is identified in less than 20% of congenital heart disease cases. An exploration of the contribution of non-inherited risk factors is important in the context of the growing health burden of congenital heart disease. Dydrogesterone is steroidal progestin (DUPHASTON is a product and trademark of Solvay Pharmaceuticals B.V, Holland) . In the Gaza Strip, Dydrogesterone is a prescribed medication as soon as possible after confirmation of pregnancy and continued until the 12th gestational week, in an attempt to prevent miscarriage without medical control. Progestogens are found to be teratogenic and were used in the United States and Europe in the past and resulted in substantial medical literature, with mixed findings, addressing the link between the drug and congenital heart disease. We aim to determine if maternal Dydrogesterone treatment in early pregnancy is associated with congenital heart disease in the infant.

**Methods:** We conducted a retrospective case -control study of birth defects risk factors. Data on 202 children with heart defects were compared with 200 control children born in 2010-2013. Dydrogesterone exposure was defined as any reported use during first trimester of pregnancy. Stillbirths, children with chromosomal abnormalities and infants of mothers with chronic medical illnesses e.g. diabetes were excluded. Binary logistic regression analyses were used to identify the relationship of explanatory factors on congenital heart disease.

**Findings:** Mothers of children with congenital heart disease were more exposed to Dydrogesterone during first trimester of pregnancy than mothers of control children (adjusted odds ratio, 2.71; [95% CI, 1.54-4.24]; P = 0.001).

**Interpretation:** We identified a positive correlation between early pregnancy Dydrogesterone use and congenital heart disease. Nevertheless, further studies are needed to confirm these results.

**Word count: 294**

### 73. Infant and Neonatal Mortality Among Palestine Refugees – A Cross-Sectional Survey

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Abstract submitted by Hannah Wesley on December 15, 2014 [[H.WESLEY@unrwa.org](mailto:H.WESLEY@unrwa.org)]

Corresponding author Maartje van den Berg ([m.berg@unrwa.org](mailto:m.berg@unrwa.org))

**Background:** United Nations Relief and Works Agency for Palestine refugees in the Near East (UNRWA) has periodically monitored infant mortality rates (IMR) and neonatal mortality rates (NMR) among Palestine refugees to assess the current state of maternal and child health care (MCH), and to guide future strategic approaches aimed at improving MCH.

**Methods:** From July 2013 - May 2014, a cross-sectional survey was conducted using the preceding birth technique in 115 UNRWA Health Clinics in Jordan, West Bank, Gaza and Lebanon. Mothers (Para  $\geq 2$ ) who registered their newborn were enrolled when verbal informed consent was given. Sample size was calculated based on IMR in 2008. Mothers (n=10.894) were asked if their preceding child (n=10.951) was alive/dead. Primary outcomes were IMR and NMR per 1000 live births. Current mortality rates were compared to 2008 by Chi-square. Risk factors of infant death were analyzed by multiple logistic regression analysis.

**Findings:** The agency wide IMR and NMR were 18.0 and 13.7, and more specifically 22.4 and 20.3 in Gaza; 11.9 and 7.8 in the West Bank; 15.0 and 11.1 in Lebanon, and 20.0 and 13.3 in Jordan. In the four fields, IMR showed no significant changes compared to 2008; NMR increased significantly in Gaza (p=0.01), and decreased in West Bank (p=0.03).

The main causes of death were prematurity (39%) and congenital malformations (26%). Risk factors for infant death were: consanguinity (OR 3.0, 95% CI 2.1-4.2); higher number of pregnancies (OR 1.1, 0.90-0.99); high-risk pregnancies (OR 2.2, 1.3-3.5); gestational age (OR 0.7, 0.7-0.8); birth weight (OR 0.99, 0.99-0.99); and shorter birth-interval (OR 0.97, 0.96-0.98).

**Interpretation:** Strengthening the health care for high-risk pregnancies and for premature infants is recommended to reduce mortality rates among Palestine refugee infants. Efforts should also be made to enhance public awareness on the consequences of consanguinity and inadequate birth spacing.

**Word count: 299**

**74. The determinants of financial abuse among elderly in the occupied Palestinian territory (oPt): a cross sectional survey**

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<sup>c</sup> Director of the Institute of Community and Public Health, Institute of Community and Public Health, Birzeit University, Ramallah, Palestine / PhD science community - Statistical Epidemiology, University of Glasgow, United Kingdom of Great Britain and Northern Ireland / Palestine.

<sup>d</sup> MPH / Birzeit University/ Palestine.

Abstract submitted by Ronal El Sughayyar on December 5, 2014 [[ronalsugher@gmail.com](mailto:ronalsugher@gmail.com)]

**Background:** Nowadays, the worldwide witness a rapid aging process. Elderly aged 60 years and more represents 4.4% of the Palestinian society in 2012. Elderly exposed to financial abuse from family-members through the non-project use of money; as blackmailing, money transferring, changing the elderly wills and attorney misusing. Financial abuse of Palestinian elderly by their families in the oPt was assessed.

**Methods:** Palestinian Family Health Survey 2010, from PCBS, included a question regarding elderly whether they receive a financial support from family-members. Chi-square ( $\chi^2$ ) testing was used, with control to gender, to check for significant associations of receiving financial support with each variable; age, Governorate, having an alive children, living with another family-members, house conditions comfortably, having ever worked, seeing their-selves capable to work, the type of work, income sufficiency and how they assess their health. Binary logistic regression with control to gender was done.

**Findings:** 3,634 elderly were answered the questionnaire, (61.4%) from the West Bank and (38.6%) from the Gaza strip. 1,636(45%) were males and 1,998(55%) were females. 2,365(65.1%) were supported financially and 1039(34.9%) were not. Logistic regression revealed that females in the South WB were less likely to be unsupported financially by their sons/daughters (OR=0.390, 95% CI=0.191-0.795). Males assessed their health as bad (OR=0.383, 95% CI=0.164-0.893) or as average (OR=0.466, 95% CI=0.218-0.998) were less likely to be unsupported financially. Elderly females who did not take care of their sons'/daughters' children (OR=1.817, 95% CI=1.167-2.830) were more likely to be unsupported financially by their families.

**Interpretation:** Findings suggest that Females, aged 73 years or more, living in north and middle WB, or did not take care of their sons'/daughters' children need more financial support. There is a need to underpin a policy that develops the health, social and financial care level and practice to protect elderly from financial exploitation.

**Word count: 296**

**75. Ageing and health: needs, rights and challenges of the elderly and their domestic caregivers in the West Bank of Palestine**

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Abstract submitted by Lamis Abu Nahleh (Corresponding author) on December 15, 2014  
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While at the global level, human society is progressively aging, Palestinian society still ranges among the youngest populations worldwide with 41% aged (0-15) and fewer than 3% aged (65+). The social dependency ratio burdening the economically productive population is very high. This demographic model is more comparable to populations in the African subcontinent than in the MENA region, except for Jordan with 37% aged (0-15) versus 3% (65+). Although much attention has been given to Palestinian children and youth in development research and programs, the elderly as a population sector are almost forgotten and research on their status and needs in Palestinian society is scarce.

Using a qualitative approach, this pilot study explores the existing support system, quality of life and needs in 15 selected cases of elderly persons, living at home and with relatively high dependency, and with their care givers.

In-depth interviews with the carers and, wherever possible, with the elderly person, included questions about life histories, current life situations, aspirations and decision-making powers. The sample represents a diversity of profiles including gender, marital status, religious affiliation, locality, socio-economic status, degrees of dependency, living with families or alone.

Findings show a rich picture of changing family dynamics, as well as evolving needs of elderly Palestinians through varying social, economic, health and psychological/emotional circumstances. They indicate strong rejection of institutionalization of the elderly by both carers and the elderly. Carers are mostly female, unmarried, living with the parent/s, and bear the brunt of social, psychological and sometimes economic costs. Carers complain more of a psychological-emotional-social burden than a financial one. All participants deplore inadequacy of formal institutions expected to provide services and the attitudes within institutions towards the elderly.

**Word count: 280**

## 76. Nurses' Perceptions about Child Abuse

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Dr. Ahmad Saifan, PhD, Assistant Professor, School of Nursing, Applied Science Private University, Amman, Jordan.

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Abstract submitted by Intima Alrimawi on November 21, 2014 [[intimarimawi@yahoo.co.uk](mailto:intimarimawi@yahoo.co.uk)]

**Background:** Despite the efforts to protect children around the world, child abuse and neglect remain serious and global problems. In Palestine, child abuse is hidden under the community culture, does not appear in the Ministry of Health official reports, and little is known about nurses' perceptions towards this phenomenon.

**Objectives:** To identify nurses' perceptions about child abuse definition, whether they faced such cases during their work, and how they managed them.

**Methods:** Data were collected using descriptive survey (exploratory) approach. A total of 84 nurses from a major hospital in Ramallah city in Palestine were surveyed.

**Results:** Only 33% of the participants intend to use referral system in co-operation with the Ministry of Social Affairs, child protection organizations, or the police in Palestine to deal with child abuse cases. The most seen abuse case was neglect (79%), followed by psychological abuse (61%), then physical abuse (57%) and the least seen was sexual abuse (27%).

**Conclusion:** Most of the participants do not know how to deal with child abuse effectively. This research provides baseline information for understanding nurses' practice in the ground, and it helps in presenting the appropriate conditions that enable nurses to fully practice their role toward such cases.

**Word count: 200**

**77. Child discipline in the West Bank (WB), occupied Palestinian territory (oPt): A household survey**

Sawsan Imseeh, Research Assistant, ICPH/BZU; Shiraz Nasr, Research Assistant, ICPH/BZU; Samia Halileh, VP Outreach and Faculty Member, ICPH/BZU; Rita Giacaman, Professor, ICPH/BZU

Abstract submitted by Sawsan by Sawsan Imseeh on December 15, 2014 [[shimseeh@birzeit.edu](mailto:shimseeh@birzeit.edu)]

**Background:** Child discipline is practiced worldwide, sometimes with harmful consequences including impaired physical and mental health. This study aims to determine the prevalence of child discipline by parents in WB and identify potential abusive behavior.

**Methods:** House-to-house survey using a representative sample of 1510 mothers in WB. ICAST-P (international instrument) was used after piloting and including selected associated factors relevant to context. Data was collected in November 2014. Three scales were constructed for negative physical and psychological disciplinary methods, and positive disciplinary methods with very good alphas (0.80, 0.74, and 0.77 respectively). Logistic regression was used to check for confounders. Data were analyzed with SPSS (version 22).

**Findings:** 20% and 9% of mothers did not report using any negative physical and psychological disciplinary methods respectively. 59% and 77% used 1-5 negative physical and 1-5 negative psychological methods. 21% and 14% reported using more than 6 negative physical and psychological methods respectively. Logistic regression revealed that mothers were more likely to use negative physical discipline with 6-9 year old children compared to those below 6 years (OR= 2.086, CI: 1.480-2.939). Mothers from the center of the WB were more likely to use negative psychological methods compared to those living in the north (OR= 2.2, CI: 1.267-3.818). Mothers were more likely to use negative psychological methods with children 6-9 years (OR= 7.182: CI 3.3-15.631) and those aged 10-12 years (OR= 4.438: CI 1.593-12.360) compared to those below 6 years. Women with crowded households (>3 persons/ room), from center WB were more likely to use positive disciplinary methods compared to those living in less crowded households (<2 persons/ room) (OR= 2.52 CI: 1.358- 4.676), and those from the north (OR= 1.736 CI: 1.073-2.808).

**Interpretation:** Results highlight the need to establish awareness among parents of age-specific appropriate disciplinary methods.

This study is part of a larger study of child discipline in Qatar and Palestine. The study was conceptualized and planned by Marcellina Mian, Rita Giacaman, Samia Halileh and Margaret Lynch. The research instrument was based on ISPCAN's ICAST-P and ICAST-R questionnaires, with slight modifications made to suit contexts. The study was funded by Qatar National Research Fund (QNRF).

**Word count: 295**

**78. Resilience revisited: children of Palestinian political detainees – coping and helping to cope**

Yoke Rabaia, Insitute of Community and Public Health (ICPH); Zeina Amro, Insitute of Community and Public Health (ICPH); Samar Yasser, Insitute of Community and Public Health (ICPH); Corey Balsam, Insitute of Community and Public Health (ICPH) and Oxfam/ Quebec; Rita Giacaman, Insitute of Community and Public Health (ICPH)

Abstract submitted by Yoke Rabaia on December 15, 2014 [[ymeulen@gmail.com](mailto:ymeulen@gmail.com)]

**Background:** The study of children’s coping with the political detention of parents in the context of political oppression and violence is challenging due to the sensitive nature of the research topic which may compromise the safety of both research participants and researchers. This study investigated how children of Palestinian political detainees in Israeli detention cope with their father’s absence, with the objective of informing policy development aimed at providing appropriate support to the children.

**Methods:** Our study is based on semi-structured interviews with 16 children aged 15 and older as well as with their siblings who decided to spontaneously join the interviews. Iterative sampling aimed at diversity with regards to sex, locality (urban, rural, refugee camp), and socio-economic circumstances. The selection of interviewees was informed by the continuous comparative process of data analysis and aimed at ensuring that both results representing general trends and outlier findings were investigated throughout the study.

**Findings:** Coping mechanisms mentioned by most children were to ‘get used to the situation’ and receiving support and comfort from family, friends and community. Length of detention period with conforming financial support provided by local institutions affected the family’s economic situation and influenced coping patterns. Interviewees re-assessed the ‘comforting’ value of pride in their father’s role in Palestinian resistance. However, children were not only the recipients of support; the older children often provided indispensable support to parents, including the father in prison, and younger siblings.

**Interpretation:** In the study of children’s resilience in the context of political conflict, we should not only look for ways of supporting children in coping with difficult family situations, but also consider the support that children extend to others; how this affects their own wellbeing and how we can make sure that their agency is acknowledged and their needs are not forgotten.

**Word count: 299**

**79. Task shifting in a Community Mental Health Centre in a Palestinian Camp in South Lebanon: Lessons learned.**

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Abstract submitted by Rabih El Chmmay on December 15, 2014 [rabihelchammay@gmail.com]

**Background:** Thousands of Palestinian refugees have been living in 10 camps in Lebanon for more than 66 years. Mental Health services provided by UNRWA have been limited to urgent cases warranting admission to psychiatric hospitals. A non-governmental organization, operating in camps for more than 40 years and addressing child and family mental health opened a center in El-Buss camp in south Lebanon in 2008 relying on the services of part-time mental health specialists. This abstract presents an assessment of a new service model developed in order to address unmet needs.

**Methods:** An external evaluator was brought in to assess a new task-shifting model, which relies on training community workers to deliver supervised specialized interventions following training.

**Findings:** Faced with increasing demand for specialist care, the mental health team opted to train community workers to deliver supervised specialized interventions in speech therapy, occupational therapy, and psychotherapy. Over a period of 2 months a group of 4 community workers underwent theoretical training in the various specialties. This was followed by an observation period during which they shadowed the specialists as they interacted with the children and their parents. They were gradually given simple tasks, which they performed under direct supervision from the specialists. After few months, they were able to deliver specialized interventions for the children themselves, convening with the specialist for supervision, while the specialist would work with the child only once every one or two months.

**Interpretation:** Task-shifting was found to be a useful strategy to enable the team to reach more children and to decrease waiting lists. The model was found to be acceptable to parents. Two years after the initial assessment, new challenges are emerging related to administrative and logistical issues, human resources, and the need to invest in the training of local personnel (Palestinian refugees), which require that the model be revisited and further, adapted to these needs.

Word count: 311



**80. Assessment of the hygiene related risks on child illness at selected elementary schools in Nablus city**

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Abstract submitted by Rasha Khayyat (corresponding author) on December 15, 2014

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**Background:** Health and safety of children at schools in Palestine are not paid the required attention. Our objective is to determine the major risks and patterns associated with hygiene and sanitation at selected school in Nablus.

**Methods:** A two layer cross sectional survey was implemented to collect data on hygiene, sanitation and bacterial contamination from 10 urban schools in Nablus. Using univariate and multivariate analysis, hygiene and sanitation related risk factors were tested for individual and combined association with the presence of bacterial species transmitted primarily through oral fecal contamination. Swabs were taken from 199 children and 8 food handlers' dominant hand and from 82 school bathrooms and classrooms. Variables related to school hygiene were observed and reported.

**Findings:** We showed strong significant relation between the presences of different bacterial species (*Listeria*, *Streptococcus*, *Micrococcus*, *Bacillus subtilis* and Gram negative bacilli) indicating significant risk of fecal oral contamination: school address, absence of soaps in the school, non- hand washing after use of bathroom, increased number of children per classroom, decreased number of teachers, toilettes and sinks per number of students at school.

**Interpretation:** This pilot study highlights the presence of several risk factors; child behavior and school environment related favoring the possible infection of fecal oral transmitted diseases. Policy maker's efforts are to be withdrawn toward new policies rendering schools a safer place for Palestinian kids. Implications and recommendation for school-based interventions and further research are discussed.

**Word count: 296**

## **81. The Global Trigger Tool shows that one out of seven patients suffers harm in Palestinian hospitals: challenges for launching a strategic safety plan**

Shahenaz Najjar<sup>1</sup>, Motasem Hamdan<sup>2</sup>, Martin C Euwema<sup>3</sup>, Arthur Vleugels<sup>1</sup>, Walter Sermeus<sup>1</sup>, Rashad Massoud<sup>4</sup> and Kris Vanhaecht<sup>1</sup>

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Abstract submitted by Shahenaz Najjar on November 26, 2014 [[shnajjar@gmail.com](mailto:shnajjar@gmail.com)]

**Background:** Patient safety is the foundation of good care. It is the most touchable and visible dimension for patient. Millions of patients worldwide suffer from disabling injuries or death caused by unsafe medical care. Several studies have reported the prevalence of patient injuries in different healthcare settings in developed countries; a few were from developing countries or regions with transitional economies. The aim of this study was to evaluate patient safety levels in Palestinian hospitals and to provide guidance for policymakers involved in safety improvement efforts.

**Methods:** Retrospective review of hospitalized patient records using the Global Trigger Tool (GTT) was conducted. A total of 640 random records of discharged patients were reviewed by experienced nurses and physicians from the selected hospitals. Assessment of adverse events, their preventability and harm category were done. Descriptive statistics and Cohen kappa coefficients were calculated.

**Findings:** One out of seven patients (91 [14.2%]) suffered harm. 54 (59.3%) of these events were preventable; 64 (70.4%) resulted in temporary harm, requiring prolonged hospitalization. Good reliability was achieved among the independent reviewers in identifying adverse events. The GTT showed that adverse events in Palestinian hospitals likely occur at a rate of 20 times higher than previously reported.

**Interpretation:** One out of seven patients suffers harm in Palestinian hospitals. Compromised safety represents serious problems for patients, hospitals and governments and should be a high priority public health issue. We argue that direct interventions should be launched immediately to improve safety. Additional costs associated with combating adverse events should be taken into consideration, especially in regions with limited resources, as in Palestine.

**Word count: 262**

## **82. Obligations of Professional Medical Associations, Quiescence, and Moral Accountability in the Context of the Israeli-Palestinian conflict**

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Abstract submitted by Abbas Rattani on December 13, 2014 [[arattani14@email.mmc.edu](mailto:arattani14@email.mmc.edu)]

**Background:** What are the moral obligations, norms of professionalism, and duties of physicians and medical associations when countries in which they practice violate health and human rights? Given the recent bombardment of the Gazan medical infrastructure and the onslaught by the Israeli Defense Forces, we seek to discuss the moral and professional obligations of American and Israeli physicians and relevant professional medical associations in this unique circumstance. We argue that physicians belonging to the highlighted professional organizations have a responsibility to challenge and educate themselves on injustices within the cultures in which they practice.

**Method:** Using the framework established by Mateen and Rubenstein (*JAMA* 2011) on governmental policies in violation of human rights and the Hagopian, et al. (*Academic Medicine* 2009) framework on the advocacy and social responsibilities of physicians and medical associations, we evaluated the mission statements of the World Medical Association (WMA), American Medical Association (AMA), and the Israeli Medical Association (IMA) to determine whether or not these associations were morally obligated to speak-out against the on-going destruction of the Palestinian healthcare infrastructure.

**Findings:** Medical professionals, who are often members of medical associations, have accepted a responsibility to condemn unethical actions—by virtue of this membership—even if this course of action appears politically unpopular. The ethical duty of physicians to alleviate suffering cannot be artificially attenuated when it encounters governmental policy. To date, only the WMA has spoken out against the attacks on Gaza, the IMA and AMA remain quiescent.

**Conclusion:** As more medical organizations and world leaders condemn the offense on health and human rights and Gaza, the quiescence from the IMA and AMA has become disconcerting. As it endeavors to actualize its mission statement, the AMA and the IMA would benefit from active efforts in challenging US foreign policy and investigating domestic military operations.

**Word count: 299**

### **83. Areas "C": Marginalized, forgotten and in urgent need for interventions**

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Abstract submitted by Rami Al Dibis on December 15, 2014 [[rdibs@pcbs.gov.ps](mailto:rdibs@pcbs.gov.ps)]

**Background:** Since the signing of the Oslo Accords in 1993, the West Bank (WB) was divided into areas A, B, and C, with Area C falling under the complete control of Israel. Although the transfer of power to the Palestinian National Authority was to take place by 1999, over 20 years have passed with Area C still under total Israeli control, leaving the Palestinian population there suffering from violation of their most basic rights.

**Methods:** Utilizing the Palestinian Multiple Indicator Cluster Survey 2014 (PMICS 5), 400 households containing 1867 persons, including 260 children were classified as in Area C and were included in analysis. Initial frequencies were used to inspect the data, followed by cross tabulations to ascertain differences among groups. SPSS version 19 was used in data analysis.

**Findings:** There were 116 localities found in Area C, of 524 localities on the WB, or 22.1% of all localities of WB. About 120,000 persons are living in these areas with 103.3 males per 100 females. Findings show significant socio-demographic and health indicator differences between Area C locales and the rest of WB, including links to tube water, sanitation, and electricity (91%, 23%, 88% respectively for Area C compared to 95%, 44%, 100% for the rest of WB). There were significant differences in selected health indicators, for example, low birth weight infants (12 % in Area C, compared to 8% in the rest of WB), C-section deliveries (31% in Area C compared to 22.3% in the rest of WB), and disability (3.4% in Area C compared to 2.8% in rest of WB).

**Interpretation:** Results demonstrate Area C's disadvantage compared to the rest of WB in terms of services as well as health indicators. This points to the need to prioritize infrastructural and health programming in this neglected part of the country which suffers from total Israeli control.

**Word count: 307**

#### **84. Revitalization of Hebron's Old City: Findings of a Pilot Study**

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Abstract submitted by Randall Kuhn on December 15, 2014 (corresponding author: [rkuhn@du.edu](mailto:rkuhn@du.edu))

**Background:** This research explores the relation between development interventions and urban renewal in the context of military occupation. In the Old City of Hebron, the Hebron Rehabilitation Committee (HRC) has been engaging in large-scale restoration of historical buildings and street infrastructure in order to “revitalize the historical center of Hebron”. For decades, the Israeli military has imposed multiple movement restrictions in the city in the form of roadblocks and checkpoints, closing sections of the old city to Palestinians while hindering movement in other sections. We explore whether HRC investments have yielded sustained impacts on improved quality of built environment and reduced growth of Israeli settlements in light of continued Israeli military activity.

**Methods:** Plot analysis is based on a series of “transect walks”, systematic visual assessments of the physical environment carried out in all block faces of the Old City. Transect data were entered in a database, georeferenced, and linked to existing spatial data on HRC restoration projects and Israeli settlements. Quantitative tests will address the effects of HRC and settlement activity on positive environmental indicators (e.g. open shops, greenery), negative environmental indicators (e.g. abandoned buildings, graffiti, trash, broken windows), and expansion of Israeli settlements.

**Findings:** Analysis is in progress. Visual inspection of spatial overlays indicates a correlation between settlement proximity and poor environmental quality, but statistical tests are ongoing. Analysis of correlation between presence of HRC projects and environmental quality has just begun.

**Implications:** When complete, this analysis will set the stage for a survey of dwellings and households aimed at a more detailed exploration of the impact of HRC activity, including effects on the psychosocial well-being of families migrating into a conflict area. Findings will have important implications for Palestinian organizations designing programs aimed at maximizing human security and urban renewal, and to the broader literatures on urban renewal, aid effectiveness, and non-violent resistance in conflicts.

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## **85. Piloting the Multi Family Approach in Community Based Rehabilitation**

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Abstract submitted by Suzan Mitwalli on December 15, 2015 [[smitwalli@birzeit.edu](mailto:smitwalli@birzeit.edu)]

**Background:** In Palestine, as in many societies, children with a handicap and their families often suffer from stress related to stigma and isolation. Over the course of one year, the Community Based Rehabilitation program (CBR) in the north of the West Bank pioneered a multi-family group approach (MFA), originally developed in the UK, to facilitate six support groups for mothers of children with a handicap. The method is based on the premise that people who share similar situations can provide company, stress relief, and practical problem-solving ideas to each other.

**Methods:** We conducted intervention research into the implementation and adaptation of MFA to the local context. This included systematic participatory observation and informal interviews throughout the process of design of the project, initial specialist training of CBR community health workers and on-the-job mentoring. We conducted systematic comparative analysis of all observation notes and informal interviews.

**Findings:** CBR teams gradually gained confidence in co-facilitating groups using the MFA techniques. The sessions combined enjoyment and relaxation with serious discussions over shared personal, family, and community experiences, and provided the participants with new ways for seeking and offering support. Over time, social isolation among group members diminished and they became more active in the group and the wider community. MFA has meant that the group participants are no longer merely program beneficiaries, but have become active participants in the psychosocial component of community-based rehabilitation.

**Interpretation:** While MFA in the West is mostly conducted by specialists, our study shows that with intensive training and on-the-job mentoring, community health workers may successfully adapt the method to develop social support networks for mothers of children with a handicap in Palestinian and possibly other non-Western settings.

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**Word count: 279**