



7<sup>th</sup> World Congress on  
**PUBLIC HEALTH, NUTRITION  
& EPIDEMIOLOGY**  
May 15-16, 2019 Singapore

**e-Poster**

7<sup>th</sup> World Congress on**PUBLIC HEALTH, NUTRITION & EPIDEMIOLOGY**

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**Policy coherence, trade liberalization and obesity: A case study of New Zealand's trade objectives and development commitments in the South Pacific****Caroline Slevin**

University of Edinburgh Medical School, UK

Policy coherence is considered essential for credible and effective policies with its importance in global health highlighted by its inclusion in Sustainable Development Goal (SDG) 17.14. Despite pledging to support the SDGs, New Zealand had failed to implement any monitoring, analytical or reporting systems to measure policy coherence by 2016. This has implications given its leadership position in the South Pacific, which is experiencing a Non-Communicable Disease (NCD) crisis, as it assists smaller island nations with development and imports essential goods. A literature review was conducted to investigate the significance of the relationship between trade liberalization and obesity in the South Pacific. This was followed by a thematic analysis of New Zealand's regional food, trade and development policies. The review found that trade liberalization has facilitated a nutrition transition with the entry of nutritionally-inferior food products to Pacific nations, with reduced agricultural subsidies contributing to an increase in food-import dependency. The policy analysis indicates a lack of coherence exists between New Zealand's objectives to pursue trade liberalization and maximize export revenue with development commitments to reduce obesity in Pacific nations. The prioritization of economic objectives underpins the failure to achieve policy coherence in the South Pacific and New Zealand appears reluctant to accept responsibility for its contribution to the region's NCD crisis. Greater communication with island communities is needed, whilst monitoring and reporting systems must be implemented to guarantee coherence when developing future policies and to prevent a further deterioration in South Pacific NCD health outcomes.

**Biography**

Caroline Slevin is currently a MBBS student at the University of Edinburgh and completed her Bachelor of Medical Sciences degree in Global Health at the University of Edinburgh. She is passionate about issues in global health and is the previous Vice-President, and current Secretary of the Global Health Society in Edinburgh.

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# Posters

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## PUBLIC HEALTH, NUTRITION &amp; EPIDEMIOLOGY

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**The role of calorie restriction diet on the fatty acid profile and eicosanoids concentration****Joanna Holowko, Maja Czerwińska Rogowska, Dominika Maciejewska, Karina Ryterska, Karolina Jakubczyk, Daniel Styburski, Joanna Palma and Ewa Stachowska**

Pomeranian Medical University, Poland

The aim of the study was to investigate the efficacy of 6 week, 2 types of diets: -500 kcal/day Caloric Restriction Diet (CR I) with an -800 kcal/day Caloric Restriction Diet (CR II) on the fatty acid profile and eicosanoids (hydroxyoctadecadienoic acids and hydroxyicosatetraenoic acids) concentration. The study enrolled 94 Caucasian former athletes aged 20-42 who had not been active for at least five years. There were three intervention groups: CR I group (n=32), CR II group (n=34), control group (n=28). In order to evaluate the effect of diet intervention, the following variables were measured: Anthropometrics, basic biochemical variables, fatty acids and their blood derivatives profiles. The CR II group showed significantly lower levels of BMI, total cholesterol LDL, TG, total lipids, insulin and HOMA-IR ( $p<0.05$ ). Subjects consuming the CR I diet significantly decreased their BMI and the level of total lipids ( $p<0.05$ ). The CR II group had a significantly decreased EPA level ( $p<0.05$ ). The CR I group showed a significantly increased level of the DHA ( $p<0.05$ ) and improvement in the omega-3 index ( $p<0.05$ ). These subjects also showed significantly lower concentrations of 15-hydroxyicosatetraenoic acid (15-HETE). Within short time, calorie restriction (-800 kcal) helps to improve lipid variables and insulin resistance. The CR I diet seems to be more advantageous in the decrease of inflammation but does not improve basic biochemical variables. We can conclude that calorie restriction can be a good choice for former athletes, although EPA and DHA supplementation is needed.

**Biography**

Joanna Holowko is a PhD student of Pomeranian Medical University in Szczecin, Poland. She is currently working as a Dietician in Rehabilitation Hospital of Saint Charles Borromeo in Szczecin. She has published seven papers in reputed journals.

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## PUBLIC HEALTH, NUTRITION &amp; EPIDEMIOLOGY

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**Is lymphocyte, which is a cheap and popular marker, sensitive to protein content in diets?****Maja Czerwińska Rogowska, A Wolska, J Palma, M Popik, D Matyniak, K Jakubczyk<sup>1</sup>, D Maciejewska and E Stachowska**  
Pomeranian Medical University, Poland

Malnutrition is associated with worse prognosis, a higher risk of infections and complications, worse regeneration of wounds, longer hospitalization, the increase of the total costs of treatment and higher mortality rate. Therefore, early identification of patients suffering from malnutrition should be considered a priority and so should be the actions aiming at the prevention of this problem. One of the most popular markers of malnutrition is lymphocyte concentrate. It is very cheap and routinely used. The aim of the study is to investigate the influence that the protein acquired from the kitchen diet has on lymphocyte concentrate in comparison to the influence that the protein acquired from the industrial diet has on this concentrate. The study group consists of enterally fed post-stroke patients (58 people: 34 fed home-made diet and 28 fed industrial diet). Patients were fed for 14 days. In the kitchen diet group, there was 28.5 g of protein and a decrease in concentration was observed ( $p < 0.05$ ). In the industrial diet group, there was 53.5 g of protein and an increase in lymphocyte concentration has been demonstrated ( $p < 0.05$ ). Lymphocyte concentrate is sensitive on to protein content in diet and it can be used as a cheap and popular marker in malnutrition.

**Biography**

Maja Czerwińska Rogowska is currently a PhD student at Pomeranian Medical University, Poland. She has her expertise in enteral feeding and treatment malnutrition patients.

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## PUBLIC HEALTH, NUTRITION &amp; EPIDEMIOLOGY

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**Association between medical utilization and death of patients with cancer in the district area****Jung Kyu Choi, Yoon Jung Choi and Seong Woo Kim**

National Health Insurance Ilsan Hospital, Republic of Korea

**Background & Aim:** Access to healthcare service can affect cancer incidence and mortality. The purpose of this study was to identify the association between transfer and mortality among patients with cancer.

**Method:** Data were from a population-based cohort of National Health Insurance (NHI) claims. The study population was comprised of patients living more than 200 km from Seoul with cancer diagnosed during a nine-year period (2004-2012). The final sample included 8,197 patients with cancer: 3,939 males (48.1%) and 4,258 females (51.9%). A Cox proportional hazard model was used to estimate the hazard ratio for death. Confounding variables including gender, age, type of social security, income level and disability were incorporated into the model.

**Results:** Among cancer patients living in the province, 2,874 (35.1%) utilized healthcare services in Seoul. About 10% (n=834) of patients died during the follow-up period. The Hazard Ratio (HR) for death of patients utilizing healthcare services in Seoul (HR: 1.26, 95% CI: 1.09~1.45) was higher than for patients who did not utilize healthcare services in Seoul. Among patients not utilizing healthcare services in Seoul, the survival probability of the rich was significantly higher than that of others.

**Conclusion:** Education and support are essential for cancer prevention and early detection, particularly for vulnerable social groups. To remove cancer disparities, limited access to high-quality healthcare services must be addressed. High-quality healthcare services should be equally distributed across rural markets.

**Biography**

Jung Kyu Choi has an expertise in evaluating the health insurance and analyzing healthcare big-data.

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## PUBLIC HEALTH, NUTRITION &amp; EPIDEMIOLOGY

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**The role of neck circumference measurement, could be a reliable way of evaluating patient's health state**

Joanna Holowko, Maja Czerwińska Rogowska, Dominika Maciejewska, Anna Gudan, Honorata Mruk, Anna Gudan, Anna Wolska, Joanna Palma, Maciej Hałasa and Ewa Stachowska  
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The epidemiological study is one of the most demanding studies. Furthermore, receiving honest data from patients is required to obtain solid statistics. However, there are some questions generally regarded as inhibiting and sensitive, for instance concerning body weight or waist circumference. Those questions could have a significant impact on utter statistics making them unreliable. There is an enormous need to create some useful and convenient anthropometric tools that would help to evaluate patient's health status simultaneously avoiding sensitive questions and rendering all the data valid. The object of the study was to examine the usefulness of neck circumference in evaluating patient's body weight and waist circumference. The study was conducted in Szczecin during two popular events: The finale of the Great Orchestra of Christmas Charity (10.01.2016) and run for women, Alkala (06.03.2016). It included 374 patients, 242 of whom were women. Every participant was measured using flexible measuring tape in order to obtain neck and waist circumference and also the body mass was weighed. Additionally, the short survey research, concerning height, educational background and place of residence was conducted. Statistical analysis showed a very strong correlation of neck circumference and both body weight ( $p < 0.01$ ,  $RHO = 0.7$ ) and waist circumference ( $p < 0.01$ ,  $RHO = 0.76$ ). It seems that neck circumference is a solid indicator that can help to evaluate both body weight and waist circumference avoiding sensitive questions. Thus, neck circumference may be helpful in collecting a representative group of people during population study.

**Biography**

Joanna Holowko is currently pursuing his PhD degree at Pomeranian Medical University in Szczecin, Poland. She is working as a Dietician in Rehabilitation Hospital of Saint Charles Borromeo in Szczecin. She has published seven papers in reputed journals and has taken an active part in many national and foreign conferences on nutrition.

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## PUBLIC HEALTH, NUTRITION &amp; EPIDEMIOLOGY

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**The influence of physical activity and nutrition on the problem of gaping intestinal barrier in the group of active athletes**

Maja Czerwińska Rogowska, J Hołowko, Dominika Maciejewska, Dominika Pokrywka, Honorata Mruk, Anna Gudan, Tomasz Mazur, Anna Wolska, Joanna Palma, Maciej Hałas and Ewa Stachowska  
Pomeranian Medical University, Poland

Regular, intensive physical effort has huge effect on constitution including processes in intestines of professional athletes. It appears that intensive physical effort can lead to disorders of enteric barrier, which can increase the permeability of enterocytes. The objective of our research was testing the connection of intestinal barrier in group of 27 active sportsmen, who are training effort and strength sports (MMA n=16, American football n=11). In group of respondents were made tests including the concentration of zonulin in feces and functional test of concentration lactulose and mannitol in urine. Furthermore, it was made the Food Frequency Questionnaire. After a series of clinical trials, 96% of patients had the higher results in zonulin test ( $43.24 \pm 9.88$  ng/ml). In 41% of patients, it was noticed that they had the higher proportion of lactulose/mannitol test in urine ( $0.045 \pm 0.013$ ). All patients, who had the higher proportion in lactulose/mannitol tests had an increasement in zonulin test. The proper values of tests are  $<30$  ng/ml in zonulin test and  $<0.035$  in lactulose/mannitol test. Athletes, who declared increased drinking of energy drinks had higher score in zonulin test ( $RHO=0.44$ ,  $p<0.05$ ). The bigger consumption of meat promotes the lower lactulose/mannitol ratio ( $RHO=0.43$ ,  $p<0.05$ ). It seems that intensive physical effort has huge impact on functioning of the intestines. That kind of effort can destroy the intestinal barrier including decrement of permeability and increment in risk of inflammation and infection. It seems that nutrition also contributes to permeability of enterocytes.

**Biography**

Maja Czerwińska Rogowska is PhD student at Pomeranian Medical University in Szczecin, Poland. Her dissertation concerns the influence of enteral kitchen and industrial diet on the permeability of the intestinal barrier.

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# Accepted Abstracts

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## PUBLIC HEALTH, NUTRITION &amp; EPIDEMIOLOGY

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**Respectful maternity care among recently delivered mothers in public health facilities in Uttar Pradesh, India: A situational analysis****Ananta Basudev Sahu<sup>1</sup>, Kali Prosad Roy<sup>1</sup>, Katie Giessler<sup>2</sup>, Kovid Sharma<sup>1</sup>, May Sudinaraset<sup>2</sup>, Vivek Sharma<sup>1</sup>, Sun Cotter<sup>2</sup> and Dominic Montagu<sup>2</sup>**<sup>1</sup>Population Services International, India<sup>2</sup>University of California-San Francisco, USA

**Background & Aim:** India has demonstrated impressive gains in maternal health in recent years by reducing the MMR from 167 in 2011-13 to 130 in 2014-16; however, sustained efforts are needed to achieve the SDG target. In order to reduce preventable maternal and new-born mortality and ensure Respectful Maternity Care (RMC), the Government of India launched LaQshya program in Uttar Pradesh. This study presents prevailing condition of RMC in selected public health facilities in Uttar Pradesh (UP), India.

**Methods:** A quality improvement program, SPARQ focused on people-centered respectful care for maternal health has been designed to implement in selected public health facilities in UP. Under this, we conducted a cross sectional study among 600 recently delivered women in six facilities of Kanpur and Unnao districts in UP during May-July 2018. Data was collected based on domains and definitions for Person Centered Care (PCC) for maternal health quality, by Afulani, et al. RMC domains were mapped as a proxy measure from PCC domains i.e. autonomy, dignity, feeling, privacy, choices, freedom from ill treatment and coercion and companionship during maternity care.

**Results:** An overwhelming response was found when patients were asked about dignity and respect, however, only few patients reported any introduction from the providers. About one fourth of respondents reported their consent/permission was taken before procedure and two-thirds were not involved in decision making about their care. Almost half were not able to labor at their position of choice, reported inaction for not controlling their pain and felt inadequate privacy during labor and delivery.

**Conclusion:** This research finding reveals the status of RMC are considered as baseline at the beginning of LaQshya program. This advocates for high-quality experience of care that is respectful, dignified and individualized in nature. Further research may help to understand the progress and course correction for effective interventions.

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## PUBLIC HEALTH, NUTRITION &amp; EPIDEMIOLOGY

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**Risks and barriers to treatment among HIV-positive individuals that patronize traditional healers in sub-Saharan Africa****Anastasia Lendel and Muktar Aliyu**  
Vanderbilt University, USA

**Background & Aim:** Traditional healers are the first healthcare option for 70% of persons in sub-Saharan Africa. This review summarizes the risk factors associated with visiting a traditional healer for people living with HIV/AIDS in sub-Saharan Africa.

**Method:** An electronic search of PubMed, MEDLINE, Ovid and other online databases were conducted. The search was restricted to articles published in English from 1990-2019. The search terms used were HIV, AIDS and traditional medicine or traditional healing, sub-Saharan Africa and antiretroviral therapy or ART. Articles were evaluated for relevance by reading their abstract. The search yielded a total of 35 articles.

**Results:** Visiting a traditional healer was associated with delay in HIV testing and initiating Antiretroviral Treatment (ART). Patronizing traditional healers is also associated with an increased risk of abandoning ART or being lost to follow up. Risks associated with traditional healer visits included potential drug interactions between traditional medicines and ART and exposure to blood and body fluids *via* unsterilized instruments, which places the traditional healer at risk as well.

**Conclusion:** There is a need for formal training programs for traditional healers, focused on reducing occupational hazards for healers and methods of linking patients to ART programs. These training programs require respectful cooperation and mutual education between traditional healers and biomedical health practitioners. It is also recommended establishing regulatory systems such as traditional healer registration councils in locations that have not already done so.

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## PUBLIC HEALTH, NUTRITION &amp; EPIDEMIOLOGY

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**Field validation exercise to evaluate community based Nawa Jatan intervention for child nutrition, Chhattisgarh, India****Ashish Sinha**

Pt. Jawahar Lal Nehru Memorial Medical College Raipur, India

Malnutrition is a one of the major social and public health concern in India. Data shows that every 3rd child is underweight in India. There is a similar situation in Chhattisgarh with 37% children underweight. Women and Child Development (WCD) department does annual weighing campaign i.e. Wajan Tyohar, through community participation conducted through growth monitoring and provides community based supplementary nutrition at village level through frontline Anganwadi workers. Anthropometric measurement is the main tool to assess the nutrition status of children. An initiative was taken to validate the data reported by frontline workers in Chhattisgarh during the Nawa Jatan weighing campaign. A statistically representative sample of children was selected across the state and anthropometric measurement was done by post graduate students of Community Medicine department. In August 2016 Department of WCD did a universal weighing campaign for children and 30.13% of them were reported as being underweight. The validation exercise reports 37.76% as being underweight. The underweight children were followed up for next six months with special focus on their supplementary nutrition by frontline workers. After six months of this intervention 41.6% improved their nutrition status and reached normal (out of 30.13% reported underweight in August). As per validation report 39.6% children reached normal (out of 37.76% reported underweight in August). As per WCD department the overall program effectiveness is 41.6% in terms of improving the malnutrition status of underweight children. The validation exercise plays a vital role as supportive supervision and in capacity building of frontline workers. This exercise shows that the problem is bit more than estimated by frontline Anganwadi workers. The intervention has improved skills and work outcome of frontline workers.

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## PUBLIC HEALTH, NUTRITION &amp; EPIDEMIOLOGY

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**Perpetuating health disparities: The effects of provider implicit bias on patient health outcomes****Bhavna Guduguntla**

Wayne State University, USA

Implicit bias acts on an unconscious level, meaning an individual is usually unaware that it exists. It can be activated quickly and unknowingly by situational cues and can silently influence verbal and non-verbal behavior, perception and memory. The negative consequences of implicit bias disproportionately affect individuals in marginalized and minority groups, who are already proven to have a higher prevalence of health inequities. Provider implicit bias manifests as non-timely diagnosis, disparate treatment recommendations, fewer questions asked of the patient and fewer tests performed and behavioral change. These changes affect patient health by increasing patient stress, harming patient-provider interactions and trust and worsening patient adherence and compliance due to reduced provider trust. General trends show that implicit bias affects health outcomes of adults through higher incidence, mortality and advanced staging at diagnosis for various cancers. Implicit bias affects health outcomes of children through disparities in infant mortality rates, chronic disease, organ transplantation, and leukemia-related deaths. These patterns are not just present in the United States, but are also persistent in the United Kingdom, New Zealand, Australia, Canada, South Africa and Brazil. By incorporating a comprehensive training curriculum, health systems may correct for the negative effects of provider implicit bias by teaching employees how to recognize, mitigate and ultimately overcome their implicit biases. Studies have shown that specialized in-classroom training results in employee implicit bias. With that said, more research must be dedicated to novel intervention designs to mitigate the effects of provider implicit bias on patient health inequities.

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**Food is medicine for all, shouldn't all be at the table? The devastating effects of insecurity within low-income Hispanics****Carolina D Reinoso**

The Ohio State University, USA

Food insecurity is one of the leading problems in public health. Low-income Hispanics alone make up more than half of the food insecure population, making up 57.7 million of the U.S. total population, a total 8% of Latinos are in poverty compared to all people in the U.S. and 20% are food insecure compared to 13% of the rest of the population. Seeing this immense disparity, it is important to evaluate the barriers that confine them into food insecurity. With the current enforcements of immigration laws and cuts on initiatives like the Affordable Care Act which covered millions of Hispanics, it has led to more contributing barriers that have confined this vulnerable population into food insecurity. According to an Immigrant and Minority Health study, 211 Latinos were interviewed within their homes to assess the barriers they are experiencing while being food insecure. From the study, the majority of the participants stated that health insurance, transportation and lack of employment opportunity were all barriers that confine them. A systematic review conducted by the PCD analyzed the correlated effects of food insecurity, food deserts and lack of job opportunity. Overall, 60% of Hispanic households were below \$25,000 per year or at/below \$19,450 per year. The association is a concern and demonstrates how we must focus on affordability and accessibility to combat this health inequality. Programs have not been self-sufficient enough to eliminate and aide low-income Hispanics out of food insecurity. The lack of current research that analyzes the contributing barriers of food insecurity mostly evaluates the after effects. To have key measures of success, public health leaders as a collective must tackle food insecurity at a multivariate level. Food prescription programs need to expand their access of outreach in order to feed all individuals instead of just one portion of the population.

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**Perception of parenting style and association with self-esteem and life satisfaction of adolescents studying in grade 9 and 10 in schools in Panadura, Sri Lanka****Dilini Mataraarachchi**

Postgraduate Institute of Medicine, Sri Lanka

**D**emandingness and responsiveness of the parent are the two categories of parenting styles. The impact of parent-adolescent relationship on psychosocial well-being of the adolescent is not optimally explored. This study was carried out to determine the impact of maternal and paternal parenting style on self-esteem and life satisfaction of the adolescents. A cross-sectional, descriptive study was carried out among 439 adolescents through cluster sampling in grades 9 and 10 in four public schools in Panadura education division in Sri Lanka. A self-administered questionnaire consisting of socio-demographic details, questions extracted from parent authority questionnaire, Rosenberg's self-esteem scale and life satisfaction scale was used to collect data. Paternal parenting style was significantly associated with self-esteem ( $p=0.002$ ) and life satisfaction ( $p=0.002$ ) of adolescents while the relationship was less defined for maternal parenting style. Unlike in western societies authoritative mothering or authoritative fathering was not significantly associated with adolescent self-esteem and life satisfaction in the study setting. At  $p=0.05$  significance level different combination of parenting styles was not significantly associated with adolescent self-esteem and whereas its relationship with the life-satisfaction of adolescents was significant.

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**Health behavior in school-age children and quality of life****Gisely Vionalita**

Esa Unggul University, Indonesia

**Statement of the Problem:** Health behaviors currently are associated with better quality of life. School-age children are at risk period to adapt their environment in doing healthy risk behaviors. This observational study was to describe the health behaviors and examine the associations of quality of life from school-age children.

**Method:** Health behaviors (i.e., eating habit, physical activity, smoking, drinking alcohol, sexual behavior, violence, school behavior and social life) were examined at 200 school-age children in Junior High School 01 Teluk Naga Tangerang using Indonesian Health Behavior School-age children questionnaire and also using PedsQL questionnaire, which measures four domains of quality of life (physical functions, mental status, social and school functions).

**Results:** School-age children showed high prevalence of eating habit (n=65%), less physical activity (38.5%), smoking (n=23.5%), drinking alcohol (n=27.5%), sexual behavior (31.0%), violence (45%), economy status (32.5%), school perception (26.5%) and social life (31.5%). In addition, this study revealed that school-age children have prevalence in good physical functions (47%), mental status (42%), social (58%) and school functions (43.5%). In a multivariate model, health behavior (physical activity, smoking, sexual behavior, social activity and violence) ( $P<0.05$ ) were dominantly correlated with quality of life.

**Conclusion:** The current study provides significant information on how health risk behavior influenced the quality of life and this study has the potential to develop better health education and promotion program in school-age children.

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**Health, nutrition and intestinal microbiota****Ivana Haluskova Balter**

French Society of Immunology, France

Microbiota under three years old fluctuates and is more impressionable to environmental factors than the adult microbiota. In lifestyle, nutrition plays one of key factors along with sanitization, caesarean sections, antibiotic usage and immunizations. There are several pediatric diseases associated with alterations of the intestinal microbiota like atopy and asthma, obesity, diabetes, inflammatory bowel diseases and neurodegenerative diseases and a raising scientific evidence concerning link between microbiota immune response and communicable-infectious and tropical diseases. Breastfeeding, introduction of solid food, regional lifestyle and diet (geographical variations) are factors influencing gut microbiota. Regardless of the origin of gut associated commensals, a number of studies have attempted to identify the mechanism by which breastfeeding promotes overall immune health *via* entero-mammary pathway. Early life changes in microbiota composition can alter susceptibility to developing obesity later in life. Many studies shown presence/absence of specific microbes can modulate and program life-long changes in immunity and further clinical study might help understand exact paths on metabolic disease progression. Research showed that impact of diet and environmental change stresses on the host can be passed on maternally to children through epigenetic modulation of the DNA by methylation. Thus, maternal dietary and microbial exposures are also crucial to the development of the microbiota early in life as children may inherit genes with differing potential for predisposition for malnutrition or obesity, based on the diet of their mother. A study showed that treatment of obese mice with *Akkermansia muciniphila* reduced high fat diet induced metabolic disorders, including fat mass gain, metabolic endotoxemia, adipose tissue inflammation and insulin resistance. By understanding the differing energy harvest and metabolic capabilities of each child's gut microbiota, there might be support for crafting microbiota-based interventions (supported already by preclinical data and research) to reverse susceptibility to obesity early in life and clinical data might support research evidence. Early life therapeutic approach and improved intestinal health might be accessible tool to combat obesity and malnutrition. There is a real need for cohort global clinical studies that survey the infant microbiome and metabolome from birth and during at least the first year of life. Full understanding of disease-related changes gathered could allow creating interventions that rationally shift the microbiota in infants to construct a healthy intestinal environment from a young age particularly which is particularly pertinent in emerging countries.

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**To what extent can task shifting reduce the HIV prevalence in the MSM population, Malawi?****Joanne Martin**

University of Aberdeen, UK

**Introduction & Aim:** MSM in Malawi have a HIV prevalence (around 20%) that is twice that of the general population (9.2%). Despite research identifying MSM as one of the high-risk HIV groups in Malawi, work and research in this area has largely focused of heterosexual and mother-to-child transmission. Task shifting is a process used to expand health care services by moving tasks from highly trained and skilled health personnel to those who are less trained (e.g. community health workers). This has been used in Malawi to expand HIV testing, counselling and treatment however; it had not been targeted at the MSM population thus far.

**Methods:** A literature search was carried out using Medline, EMBASE and PubMed. Key search terms were used. The search topics included: The strengths of task shifting and the sexual behaviors, attitudes and challenges faced by MSM in Malawi. A limitation criterion was set to ensure the most appropriate and recent research was reviewed and included in this review.

**Results:** The results obtained suggest that task shifting may be used to overcome some of the barriers faced by MSM but it is not clear if task shifting could overcome all of them. Key themes were identified and conclusions were drawn from these themes.

**Conclusion:** The results indicate that there may be a role for task shifting in reducing the prevalence of HIV in this high-risk group. However, from the results it is unclear to what extent task shifting can do this as the challenges faced are complex.

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**Cadmium contamination in consuming foods and biological samples in Iran**

Mohammad Hadi Dehghani, Mahboobeh Ghoochani, Noushin Rastkari, Masud Yunesian, Ramin Nabizadeh Nodehi, Alireza Mesdaghinia, Anahita Houshiarrad and Mansour Shamsipour  
Tehran University of Medical Sciences, Iran

Cadmium is an important environmental contaminant. High consumption of chemical fertilizers and industrial activities in recent decades has caused people to be worried about exposure to cadmium. There is no policy for environmental and biological monitoring of exposure to cadmium in the general population in Iran. This study was aimed to review cadmium content in consuming foods and biological samples in Iran, systematically. We developed a comprehensive search strategy and used it to search on Web of Science, Scopus, Science Direct and Scientific Information Database until 28 December 2016. The totals of 285 articles were identified and finally 31 original papers were selected. Cadmium contamination was found in Iranian food groups such as rice, cereal and legumes, canned tuna fish, vegetables, fruit juice and egg. This study showed that cadmium amount in 75% of the consumed rice samples (domestic and imported) was higher than the maximum limits approved by institute of standards and industrial research of Iran. Lettuce samples in Yazd were recorded the highest concentration of cadmium compared to other studies. In addition, high amount of cadmium was observed in the blood of the general population. Regarding the cadmium contamination in food and blood samples in Iran, policies must be adopted to reduce exposure to cadmium through different matrices as much as possible.

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**No roads to health: Lessons from health service delivery in rural communities of Sub-Saharan Africa****Olusimbo Ige, Kathleen Griffith and Graciela Salvador Davila**  
Global Ministries, USA

Globally, the numbers of stillborn babies, neonatal deaths and maternal deaths are reducing as a result of focused efforts on low and middle-income countries. However, in many rural communities, progress remains slow particularly when there is limited access to skilled medical attendants during delivery. In response, since 2015, our organization has been implementing Maternal, Newborn and Child Health (MNCH) programs in Sub-Saharan Africa, where women are plagued by many challenges in seeking obstetric care. This study highlights persistent barriers to obstetric care in certain rural populations. Mixed methods were used to explore barriers to institutional delivery in target countries. Qualitative data were collected through Participatory Rural Appraisal (PRA) with groups of service providers, expectant mothers during antenatal clinics, mothers presenting in labor, community health volunteers, mothers in the communities served by the rural maternity centers. Notes taken during PRA sessions were edited, triangulated and coded according to recurring issues. Additionally, participants used matrix ranking to express their perceived relative significance of the barriers identified. After three years of programs many underserved communities' pregnant women now receive an integrated package of antenatal, childbirth and post-partum care. However, despite all the efforts made to increase institutional deliveries, numbers continue to lag in many rural communities where less than 50% of the mothers who attend antenatal clinic come back to have their babies at the maternity center. Factors related to limited household income, non-availability of means of transportation and physical inaccessibility of roads were highly ranked barriers to utilization of institutional delivery. Time to walk to the health facility ranged from 1-3 hours in many rural communities. It appears that the challenges to be met to increase institutional delivery are not new technologies nor new knowledge about effective interventions, the real challenge is how to improve road access to health facilities. Multi-sectoral approach is imperative to success since the main barriers to obstetric care appear to be outside the scope of the health sector.

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Notes:

7<sup>th</sup> World Congress on

## PUBLIC HEALTH, NUTRITION &amp; EPIDEMIOLOGY

May 15-16, 2019 Singapore

**Nutritional status and functional capacity in diabetic and non-diabetic elderly females: A comparative study****Tanu Gupta and Pratibha Singh**

Manav Rachna International Institute of Research and Studies, India

**Introduction:** The association of diabetes and malnutrition may lead to unwanted dependence on others compromising the functional capacity of elderly.

**Aim:** The purpose is to assess the relationship between nutritional status and functional capacity in diabetic and non-diabetic elderly females.

**Method:** The cross-sectional study was conducted on 190 elderly females aged 60-80 years. Demographic attribute, chronic illness and metabolic disorder were assessed using self-reported questionnaire. Functional capacity was assessed using Lawton Instrumental Activities of Daily Living Scale and Katz Index of Independence in activities of daily living. Nutritional status was assessed using Mini Nutritional Assessment Scale. Data was analyzed using chi-square test and logistic regression analysis.

**Result:** Of the 190 participant, 97 were diabetic (51%) and 93 were non diabetic (49%). In MNA 75.2% non-diabetic were normal compared to only 42.3% of diabetic individuals. All the assessed IADL variables significantly deteriorated in diabetic individuals. Independence in IADL reduced in malnourished while considerably improving in well-nourished individuals. This study among elderly female suggests that simultaneous influence of malnourishment and metabolic diseases may retrograde the functional capacity whereas maintenance of optimum nutritional status and preventing underweight can improve their overall quality of life.

**Conclusion:** Patient with type-2 DM showed inferior nutritional status and high dependency. Optimum interventions to maintain healthy weight and good nutritional status are recommended for healthy aging.

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