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CONCURRENT PANELS
ORAL PAPER PRESENTATIONS
MONDAY, 29 OCTOBER 2018

CONCURRENT PANEL I

MALNUTRITION

**MONDAY, 29 OCTOBER 2018
SEMINAR ROOM 1, RMIC**

Retrospective Analysis of Products used to Reduce Acute Malnutrition in the Philippines

*Lauren Nguyen, Lincoln Lau, Roger Clemens, Frances Larson Tinker, Mellissa Withers
University of Southern California, International Care Ministries*

Background. According to the recent Philippine Plan of Action for Nutrition, of the 11.4 million children under five years old, more than a third suffer from malnutrition (National Nutrition Council, 2017, www.nnc.gov.ph). Poor nutrition can have irreversible effects on the physical and mental development of the child. There is a great need to identify culturally-specific, cost-effective, and sustainable health, nutrition, and related services to ensure optimum physical and mental development of the child. Ready-to-use therapeutic food (RUTF) was designed to address severe acute child malnutrition in humanitarian crises. The effectiveness and sustainability of RUTF in non-famine yet impoverished conditions, as reported in the Philippines, has not been demonstrated. This project will evaluate two nutritional interventions implemented by a Philippine-based non-governmental organization, International Care Ministries (ICM). The first intervention was a home-based program that used micronutrient-fortified food from 2014-2016; the second intervention is a home-based program that has used RUTF from 2016-present. Objective. This study will a) identify and appraise the strengths and weaknesses of two different nutritional interventions implemented by ICM, and b) attempt to understand and integrate contextual factors in the Philippines that potentially influence the effectiveness and sustainability of specific nutrition interventions. Methods. 1) Statistical analysis of quantitative data collected by ICM (e.g., completion rate, anthropometrics). 2) Evaluation of intervention based on maternal interviews. Results and Discussion. Data collection is in progress and will be ready for presentation by October 1, 2018.

The Double Burden of Malnutrition in Children and Young Adults

Frances Larson

University of Southern California

At the 2015 APRU Conference, I was asked to address the disparities in knowledge, teaching and resources focused on what the United Nations now calls the “double burden of malnutrition” and its specific impact on the health of children and younger adults. Education and research that results in a deeper understanding of causation, creative concept formation, and wise use of expertise and resources within the APRU Consortium is needed.

Based on a review of current literature and years of clinical observation and collaboration, I will:

1. Explain “the double burden of malnutrition” and the disturbing rise in “adult” chronic diseases in children and younger adults.
2. Identify current nutrition, agriculture, food science, socioeconomic, media, migration and environmental factors contributing to this alarming global health trend.
3. Contrast “malnutrition” due to agricultural and food science practices versus inadequate nutrient intake due to poverty, contamination or famine.
4. Present the need for ongoing APRU collaboration using video conferencing, scholar exchange and shared resources.
5. Provide a video presentation of student-faculty relationships and research projects that address the need to ACTIVATE student-faculty, community, corporate, government and NGO partnerships.
6. Promote the development of regular videoconferencing, scholar exchange and sharing of university and other resources to address the needs of children and younger adults in APRU countries.

The Prevalence of Underweight, Overweight, and Obesity in Indonesian Young Adult, Trend between 1993–2014

Defi Amalia Setia Ningrum, Krisnawati Bantas

Department of Epidemiology, Faculty of Public Health, Universitas Indonesia

Background. This study aims to estimate the prevalence and assess trends of underweight, overweight, and obesity between 1993–2014 among Indonesian Young Adult. **Method.** A secondary data from Indonesia Family Life Survey (IFLS) wave 1 (1993) to 5 (2014) was used to analyse adult aged 19 – 34 years old. Underweight was defined as body mass index (BMI) $<18.5 \text{ kg/m}^2$; overweight as BMI $25\text{--}30 \text{ kg/m}^2$; obesity as BMI $>30 \text{ kg/m}^2$. We evaluated trends by analysing the prevalence and odds ratios (ORs) of underweight, overweight, and obesity in each phase comparing with the first IFLS study in 1993. P value of trends were calculated by general linear model and chi square test. Logistic regression model was used to calculate the odds ratios. **Results.** The prevalence of overweight and obesity was highest in 2014, 22.8% and 8.1%. Meanwhile, in 2014 the prevalence of underweight was in the lowest rate, 10.7%. Test for trends were significant ($p<0.001$) for overall, male, and female young adult, indicating increase in the prevalence of overweight (12.7% in 1993 to 22.8% in 2014) and obesity (1.7% in 1993 to 8.1% in 2014). As compared with IFLS 1, the highest OR for underweight was found, 2000 (1.39, 95%CI: 1.207-1.594), overweight (2.47, 95% CI: 2.119-2.883) and obesity (10.88, 95%CI: 5.948-9.899) was found in 2014. **Conclusion.** The prevalence of overweight and obesity in Indonesian young adult has increased substantially over decade. Management of underweight, overweight, and obesity in adolescent is required to prevent obesity and worsening health in adulthood.

THE BURDEN OF INTRAHOUSEHOLD DUAL FORMS OF MALNUTRITION IN LOW AND MIDDLE INCOME COUNTRIES: UNDERSTANDING SHAPING DETERMINANTS

Eric Twizeyimana

University of Rwanda

Background. Nearly 30% of humanity in the developing world—are suffering from the multiple forms of malnutrition. A massive global epidemic of obesity is emerging and a large population is affected in some countries. DFM (Dual forms of malnutrition) reflects the dual burden of over nutrition and under nutrition within a single household. The objective of this study was to assess the determinants and factors that increase the dual burden of malnutrition in the same household. **Methods.** A systematic literature searches of recent publications related to DFM, intrahousehold malnutrition, food distribution in the same household, low and middle-income countries and intrahousehold allocation of resources was done. PubMed, NCBI and Scholarly articles were searched to find those published since the last 10 years. 17 out of 21 articles were selected based on having adequate population and aiming at studying the trends of malnutrition in the household. Descriptive statistics were used to analyse the data. **Results.** DFM has been associated with higher Socio-economic status, household wealth, income, and Gross domestic product and socio-demographic characteristics such as family size, age difference between the underweight and overweight members, maternal support, urban residency and an unequal food distribution. DFM was significantly higher in the households with mothers receiving high food allocation, consuming more carbohydrates and children receiving less macronutrients. **Conclusion.** The results demonstrate that nutritional education is very important to increase awareness of the impact of DFM. Dietary changes related to the nutrition transition may have different, negative impacts on children and women.

Prevalence of Central Obesity in the Chinese population: a systematic review and meta-analysis of more than one million subjects

Junjie Huang, Veeleah Lok, Maggie Chan, Colette Leung, Jingxuan Wang, Xiaohui Yuan, Xianghai Zeng, Jason Huang, Vincent Chung, Martin CS Wong

School of Public Health, Chinese University of Hong Kong; School of Medicine, Shenzhen University

Background. Central obesity represents the most common component of metabolic syndrome, and confers a substantial cardiometabolic risk. Few studies investigated its time-trend prevalence in Chinese population. This study estimated its prevalence by gender, age, criteria and period. **Methods.** A PRISMA-compliant search was performed in MEDLINE and Embase up to 20 May 2018 for population-based studies reporting the prevalence of central obesity in China. The studies were eligible when they had >500 participants aged ≥ 18 years. The Metaprop was used to weigh the results of each study by Freeman-Tukey Double Arcsine Transformation. The prevalence and their 95% confidence intervals (CIs) were derived by random-effects models. **Results.** This meta-analysis involved 60 studies with a total of 1,038,902 participants. The overall prevalence of central obesity was 38.9% (95% CI=33.2% to 44.7%). Its prevalence was higher in females (39.7%) than males (24.7%), and in older subjects (45% vs. 14.3% for age ≥ 40 years and <40 years, respectively). Its prevalence was increasing rapidly from 1991-1998 (27.7%), 1999-2007 (32.9%) to 2008-2014 (43.8%), with females having a more significant rise (from 25.8% to 46.2%) than males (from 16.5% to 29.1%). The prevalence varied widely according to different definitions [WHO (26.6%), ATP-III (10.0%), IDF (38.0%), and JIS (55.7%)]. **Conclusion.** A significant rise in the prevalence of central obesity was observed over time in China. It is more prevalent and increasing more rapidly in Chinese females. These findings imply that healthcare policies should be formulated to implement strategies in prevention and treatment of central obesity in this group.

Factors Influencing Health-related Quality of Life of Overweight and Obese Children in Kuala Lumpur, Malaysia

Shazana Rifham Abdullah

Department of Social and Preventive Medicine, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia

Introduction. Overweight and obesity among children may have psychological consequences, with potentially lasting effects on health-related quality of life (HRQOL). The aims of this study were to compare HRQOL across weight status among children and to determine the associated factors. Methods. 928 participants aged 9 to 17 years were recruited from eight randomly selected primary and secondary schools in Kuala Lumpur. The validated Malay version of Pediatric Quality of Life (PedsQL) Inventory was used to measure HRQOL. The association of the HRQOL with independent variables among overweight and obese children was examined using multivariable linear regression. Results. 41.2 % (n=375) of the participants were either overweight or obese. Majority were female (n=617, 66.4%) and Malay (n=852, 91.9%). There was approximately similar proportion between participants from primary (51.7%) and secondary (48.3%) school. Obese participants reported lower overall HRQOL ($p=0.002$), physical functioning ($p<0.001$), social functioning ($p=0.003$) and psychosocial health ($p=0.043$) compared to normal weight. In the multivariable linear regression analysis, obese participants had lower HRQOL ($p<0.015$) and physical functioning ($p<0.014$) compared to overweight participants, while those who lived with single parent reported lower HRQOL compared to participants who lived with both parents ($p=0.035$). Participants with history of being bullied had lower HRQOL ($p<0.002$) and psychosocial health ($p=0.001$). Whereas, those with lower self-esteem reported lower scores in all three domains ($p<0.001$). Conclusion. Overweight and obesity have negative impacts on HRQOL of children and adolescents. Therefore, HRQOL need to be included in obesity prevention program as weight reduction module as well as relevant outcome.

CONCURRENT PANEL II

NON-COMMUNICABLE DISEASES

MONDAY, 29 OCTOBER 2018

SEMINAR ROOM 2, RMIC

Policy Scorecard for Gender Mainstreaming in Non-Communicable Disease Policies in Malaysia

Arunah Chandran, Moy Foong Ming, Noran Naqiah Mohd Hairi

University of Malaya; Ministry of Health Malaysia

The four main Non-Communicable Diseases (NCDs) - Cardiovascular Diseases, Cancers, Diabetes and Chronic Respiratory Diseases are the leading causes of death and disability in Malaysia and globally. This global NCD epidemic is a gender, health and development concern. The four main modifiable NCD risk factors are physical inactivity, unhealthy diets, tobacco use and the harmful use of alcohol. Both men and women are at risk of different levels of exposure and vulnerability towards these NCD risk factors and disease progress. A qualitative review was conducted using policy analysis tools, the WHO Gender Assessment Tool (GAT) and WHO Gender Responsiveness Assessment Scale (GRAS), to examine gender responsiveness of national NCD-related policies in Malaysia that was published from 2008 to 2018. All policies were searched initially for keywords including women, female, gender and girls. Subsequently, the context in which the keyword appeared was read, the questions from GAT were applied to the policies and subsequently assessed according to GRAS. Seven NCD-related policies were identified from the period of 2008 to 2018. The inclusion of gender was minimal in most policies. Overall, national NCD-related policy documents in Malaysia lacked gender specific data, poor reference to analysis of gender differences in risks and determinants, and lacked consultations with key NGOs or networks. Despite Malaysia's commitment to achieving the United Nation's Sustainable Development Goals which includes gender equality, the NCD-related policies in Malaysia were generally devoid of gender equity concerns. In conclusion, mainstreaming of gender equity in NCD policies has not occurred in Malaysia.

What's behind NCDs news?

Nurulaini Abu Shamsi, Judith McCool, Rob McNeill

The University of Auckland

Introduction. News media are important contributors to popular discourse on many social issues, including health. Media representation of news events is often presented through a perspective or “framed” according to various factors such as unconscious bias, economic, political and logistical constraints. In constructing NCD news stories, journalists apply frames to emphasise some aspects while repressing others. The way media frame this issue consequently influences public perception and the formulation of public health policy. As frame building theory discusses processes and factors that lead to the construction of these news frames, this study intends to investigate these factors by examining the frames used in NCD stories in newsprint media. Methods. This qualitative study used thematic content analysis, to identify how NCD- related stories were framed in a sample of Malaysian newsprint media between 2013 and 2014. Findings. The analysis identified that NCD-related news stories were predominantly framed as an individual issue and consistently portrayed positive presentation of key stakeholders in managing NCDs. Most of the NCD stories framed in individual perspective were supported by quotes from high credential sources, highlighting that journalists heavily rely on established sources in their reporting. The consistent positive portrayal of government initiatives on NCDs implies that news media function as propagation agents of the government. Parallel to previous studies, news media tend to present NCDs through the individual frame thus downplaying the multifactorial nature of NCDs. This representation may also negate the needs of other stakeholders to further contribute to this issue.

Parental and Peer Modelling Effects of Substance Use: Differential Associations with Early Onset and Dependence of Tobacco Use among Male and Female Adolescents in Taiwan

Pei-Chun Kuo, Jiun-Hau Huang

Department of Nursing, Mackay Junior College of Medicine; Nursing, and Management, Institute of Health Behaviors and Community Sciences, College of Public Health, National Taiwan University

Background. Previous studies revealed that parental and peer tobacco use may affect adolescent tobacco use. Smoking behaviours also differed by gender. However, prior research mainly focused on examining the effects of parental and peer tobacco use on adolescents' own tobacco use and did not assess the problematic level of tobacco use. Hence, this study investigated the effects of both alcohol and tobacco use of parents and peers on adolescent problematic tobacco use, separately by problematic level and gender. **Methods.** Data were derived from 4,445 adolescents aged 12–17 years from the 2014 National Survey of Substance Use, consisting of a nationally representative sample of non- institutionalized individuals in Taiwan. Problematic tobacco use was assessed using the Fagerstrom Test for Nicotine Dependence (FTND). Multivariate logistic regression was used, stratified by problematic tobacco use level and gender and controlling for sociodemographic characteristics and health risk behaviours. **Results.** Earlier tobacco use (initiation age ≤ 13 vs. non-smoking) was related to: 1) in males, paternal (AOR=6.00) and peer (AOR=4.47) tobacco use, and own alcohol use (AOR=2.72); 2) in females, peer alcohol use (AOR=16.76). Nicotine dependence (FTND ≥ 4 vs. non- smoking) was associated with: 1) in males, paternal (AOR=3.28) and peer (AOR=3.01) tobacco use, and peer (AOR=3.30) and own (AOR=2.28) alcohol use; 2) in females, maternal tobacco use (AOR=6.36), and peer (AOR=27.52) and own (AOR=4.52) alcohol use. **Conclusion.** These findings could inform the development of gender-specific smoking prevention programs, tailored for different problematic tobacco use levels and simultaneously targeting parental and peer substance use behaviours.

Third hand Dangers: Addressing the persistent challenge of residual tobacco smoke

Heather Wipfli

University of Southern California

Over the decades-long effort to control tobacco use, diverse policy approaches have been used to influence individual actions and reshape societal norms relating to smoking and second hand smoke (SHS). Policies, however, have not been advanced for the recently identified hazards posed by third hand smoke (THS). The concept of THS, as distinct from SHS, emerged following the recognition that tobacco smoke components can persist in indoor spaces after there is no longer active smoking. Furthermore, laboratory investigation showed that chemical reactions involving residual tobacco smoke components and airborne pollutants could generate hazardous toxins, such as volatile reaction by-products, ultrafine particles, and tobacco-specific nitrosamines. A 2011 review published in *Environmental Health Perspectives* synthesized the literature then available, bringing together findings from research on THS in real-world and laboratory settings, laboratory studies of THS chemistry, research directed at toxicity, THS exposures in real-world settings, biomarker studies, and consideration of potential health risks. This emerging evidence on THS prompted the State of California's Tobacco-Related Disease Research Program (TRDRP) to support further research on THS, including funding the California Consortium on Third hand Smoke Exposure & Health, beginning in 2011. This presentation will present the evidence base on risks of THS that has emerged from the Consortium and describe how the Consortium's researchers are collecting data from, and working with, diverse stakeholder groups in developing new policy approaches to ensure 100% tobacco smoke free environments

Beyond Viral-Roles and Opportunity of Social Media Advocacy in Influencing Tobacco Control Policy in Malaysia

Mohamad Firdaus

University of Malaya

Background. An Internet Survey in 2017 conducted by the Malaysian Communications and Multimedia Commission showed 80% of internet users log into the social media networks with 97.3% having a Facebook account. This is an opportunity for social media advocacy to disseminate information to the public with a wider coverage. Method. Grey literature search in the internet of 'rokok' and 'vape' keywords has been done to see how social media is used in advocacy. The analysis has been done and has been chronologically arranged. Result. In 2015, the normalisation of vape culture has begun to spread in Malaysia. Concerned with these alarming developments, many people began to share views and criticisms on social media. This issue has finally caught the attention of many parties and stakeholders. A clearer and more precise policy has been made. Conclusion. Social media is a potential communication medium for the normalisation of smoking culture in Malaysia. However, there are some limitations which are difficult to reach to certain groups who have no access to the internet and social media.

Prevalence and Risk of Metabolic Syndrome and its components by Gender among 17-year-old Adolescents in Malaysia: Malaysian Health and Adolescents Longitudinal Research Team (MyHeART) study

Ruben Ramakrishnan, Sanjay Rampal, Yazid Jalaludin, Hazreen Abdul Majid

Centre for Population Health (CePH), Department of Social and Preventive Medicine, Faculty of Medicine, University of Malaya; Julius Centre University of Malaya, Department of Social and Preventive Medicine, Faculty of Medicine, University of Malaya; Department of Paediatrics, Faculty of Medicine, University of Malaya

Introduction. Metabolic Syndrome (MetS) has been prevalent among Malaysian adolescents as early as 13 years old. The main objective of this study was to report the prevalence and risk of metabolic syndrome (MetS) and its components by gender among 17-year-old adolescents in Malaysia. Methods. A cross-sectional analysis of the MyHeART cohort study which was followed up in 2016. MyHeART study used a multi-staged cluster sampling method to select participants among adolescents attending public secondary schools in Malaysia. A self-administered questionnaire was used to collect socio-demographic and lifestyle information. A digital weighing scale (Seca 813, Seca, UK) and vertical stadiometer (Seca Portable 217, Seca, UK) were used for anthropometric measurements. Fasting blood samples were taken to measure serum lipid profile and fasting blood sugar levels. The multivariate model adjusted for confounder which was physical activity. Results. For the analysis, we included all 1,032 participants who participated in 2016 follow up. The prevalence of MetS was 31.7% (n=110) and 24.7% (n=169) among both male and female adolescents respectively. Compared to males, the adjusted OR for central obesity and MetS among female adolescents was 1.6 (95%CI 1.3, 1.9) and 0.7 (95%CI 0.5, 0.8) with a significant p-value of <0.05. Discussion. The study provides the prevalence of MetS among 17-year-old adolescents in Malaysia. Female adolescents have increased risk of central obesity despite lower risk of developing MetS as compared to male adolescents. However, further analysis is required to determine the longitudinal association between central obesity and the risk of MetS.

CONCURRENT PANEL III

HEALTH SYSTEMS & WORKFORCE

MONDAY, 29 OCTOBER 2018

CUBE ROOM 1, IGS

Analysis on the External Environment of Health Cooperation in China, Vietnam and Laos

Si Zhu, Jiayan Huang

Fudan University

Background. Mainly existing health cooperation between China and ASEAN countries is crisis-type cooperation and lack of overall cooperation strategy. Based on the analysis of the external environment and the status of the current cooperation, proposals for future health cooperation are proposed. Methods. PEST analysis was used respectively to analyse the political, economic, social and technological cooperation external environment in Vietnam and Laos. The World Governance Indicators were used to evaluate the political environment. The Global Competitiveness Index (GCI) was used to assess the economic environment. Five indicators including national territory area, population, ethnicity, religion, and official language were chosen to analyse the social environment. The World Factbook was used to assess the technological environment. Indicators included the proportion of rural population and occupational labour force. Results. Political and economic development of Vietnam is stable and rapid while Laos's is still slow. Vietnam's advantage is mainly in the rule of law indicators (57.21%). The problem of corrupt control (15.38%) in Laos is prominent. Vietnam's GCI has shown an upward trend in recent years while Laos's has slightly declined. Vietnamese are similar to Chinese in religious beliefs, while Lao is completely different. Both Vietnam and Laos have relatively higher proportion of agricultural labor force. Conclusion. It is necessary to explore the cooperation guidelines according to the development needs and comparative advantages of each country in order to maximize the benefits. When cooperating with Vietnam, China should give priority to the high-demand industries. As for Laos, China should focus on financial and technological assistance to Laos.

Health, Inequality, and Inclusive Development: Philippines and India from a Comparative Perspective

Maria Dulce F. Natividad

University of the Philippines Asian Center

In recent years, the Philippines has experienced sustained growth not seen in many decades, earning recognition as one of the fastest growing economies in Southeast Asia. In South Asia, India has shown even higher growth rates and is expected to surpass China's economic expansion. The dynamism of the service economy, particularly the boom in information technology-business processing outsourcing (IT-BPO), has been credited for the rapid growth of both countries. However, a tension point for emerging economies such as the Philippines and India is how to ensure equity in the face of growth. Implicated in this is the issue of health and health care and to what extent they become a measure of inclusive development. This paper interrogates the notion of inclusive development by examining the relationship between health and economic growth. Specifically, it asks the following questions: How has rapid economic growth contributed to health equity in fast-rising economies such as India and the Philippines? An important part of this examination is determining the role of the state in influencing health equity goals.

Health Inequality in Wealth Disparity: Indonesia's Health Coverage Protection against Poverty

Gita Miranda Warsito, Wiku Adisasmito

Department of Health Policy and Administration, Faculty of Public Health, Universitas Indonesia

Background: Poor health will potentially lead to poverty, and poverty will also potentially worsen the health condition. It might create a wider gap in health inequality between poor and rich. To answer this ill-fated relationship between health and poverty, Universal Health Coverage (UHC) aims to provide financial protection for all people. Objective: This article aims to cover the development of Indonesia's Health Coverage protection against poverty throughout the implementation of Universal Health Coverage (UHC) in Indonesia. Method: A narrative review was chosen in favour of its strength in constructing a critical analysis of a complex problem from the theoretical and contextual point of view. Ten journals articles that consist of country data analysis and commentaries; and eleven grey literature were obtained for the organization of this paper. These literatures mostly consist of population data and report related to health and poverty. Discussion: This article covers the global standard for country economic classification and its impact to the health disparity; the coverage of national health insurance; national health budget allocation and wealth disparity; and health services inequity that caused by wealth disparity regarding the ethical consideration. Conclusion: The implementation of UHC in Indonesia potentially has a protective effect against poverty. Data trends of national health budget allocation and Gini ratio in Indonesia shows a positive result. The wealth disparity in Indonesia is decreasing steadily, along with the increasing national budget allocation for health after the implementation of JKN in 2014.

Military response during natural disasters: inevitable trend or necessary tool?

Cherrie Short

Natural disasters have affected billions of people, and their collective damages have severely affected global GDP. Natural disasters affect not only individuals and communities, but also economies and governments. Although it is the responsibility of governments to protect and assist their residents during disasters, they often lack the capacity to respond adequately. As climate change continues to affect diverse regions and countries, as people are displaced, cities or towns uprooted, and services interrupted, government structures turn to military sources to respond and provide immediate relief. Yet, little is known about the policies and training of the military and its personnel in reference to trauma, or PTSD, or the efficient use of medical resources for this purpose in preparedness and response. This paper is meant to address the growing importance of military mitigation and response in natural disasters. Because of the increasing number of disasters, growing pressure for appropriate response and the large number of social actors, a fruitful topic for discussion is the role of the military and their relationship with civil organizations including police forces and health services at selected stages of disaster mitigation and response. By taking a closer look at one particular aspect of the impact of Climate Change in relation to rising natural disasters, and the inevitable growth of military mitigation, this paper will examine military's preparedness and response in natural disasters in the Pacific Rim, with specific reference to long-term effects on local communities in relation to trauma and mental health.

The Ethics of Grinding: Transcending Biological Limitations as the Next Frontier

Leander P. Marquez

University of the Philippines Diliman

This paper explores the ethical issues and limits of self-improvement by grinding and its implications to the future of humans. Evolution has shown that as species evolve, they improve upon the weaknesses of their predecessors. In humans, these improvements may either be natural or artificial. Natural improvements may be exhibited by an increased resistance against certain diseases or, perhaps, an enhanced cognitive capacity. Meanwhile, artificial improvements may take the form of attaching prosthetic limbs to a disabled person or implanting pacemakers to aid blood circulation. These artificial improvements are seen as ethical in the medical world and accepted in society. However, what is glaringly an ethical issue is when a perfectly normal, healthy, and able-bodied person decides to improve oneself by medically attaching certain devices on the body or use chemicals to augment bodily functions and capabilities in order to do certain things that most people cannot. This practice of body modification is called grinding – a species of biohacking. There are existing laws and ethical guidelines when it comes to attaching certain apparatus on the body for medical purposes, but there appears to be almost none when it comes to grinding (and biohacking). Thus, the question that one must confront is whether or not it is ethically permissible for an individual to undergo medical procedures for the purposes of grinding. Conversely, is it ethical to prevent someone to engage in grinding as a means of self-improvement? Ultimately, this paper puts into question the value of transcendence and medical-ethical decision-making.

Philippine Universal Health Coverage: Where Are We Now? What is Next?

Ana Melissa H. Cabungcal

University of the Philippines, Manila

Introduction: Universal Health Coverage (UHC) aims to provide adequate and effective healthcare for all. It has a positive impact on health outcomes for the population. This paper aims to review current policy recommendations on UHC, review current Philippine policy and status and to make program recommendations to advance Philippine UHC. Methodology: Using PubMed, Medline and other online search engines, a review of literature on UHC was conducted. Best practices will be reviewed and alongside this, data will be gathered regarding the current status of UHC in the Philippines. The framework used in conducting the review is presented in "Delivering Universal Health Coverage, A Guide for Policymakers" from the World International Summit for Health (WISH), chosen as it follows the conceptual framework presented by the WHO in the World Health Report of 2010 and for its simplicity and straightforwardness. Results: Prioritizing full population coverage with compulsory public financing helped improve health outcomes, lower inequality and raise levels of financial protection compared to selective coverage. Fundamental to achieving a sustainable UHC is to invest more in primary health care. A strong consensus has been reached that mandatory financing mechanisms are the best way to fund UHC. Recommendation: In the Philippines, there is a need to develop the programs on primary health and outpatient care. Focus should be placed on health promotion and disease prevention particularly with regard to NCDs. The system of purchasing and distribution of health products and services should be evaluated and the issue of lack of and uneven distribution of the health workforce should be addressed

CONCURRENT PANEL IV

WOMEN AND CHILDREN'S HEALTH

MONDAY, 29 OCTOBER 2018

CUBE ROOM 2, IGS

Program effectiveness to address menstrual health knowledge gap in a rural Nepal village

Carol KP Wong

CCOUC, CUHK

Introduction: Menstrual health is a sensitive topic that causes gender discrimination and segregation. A focus group conducted in Sindupalchok, Nepal (April 2017) found major knowledge gaps and misconceptions regarding menstrual hygiene practices in their female population. Objective: To assess programme effectiveness for addressing gaps in menstrual health knowledge and to promote menstrual hygiene practice. Method: A 3-day health education intervention was conducted in January 2018. Knowledge on menstruation cycle and period, menstruation-related hygiene practices, and pain alleviation methods were presented through posters and interactive demonstrations. Pre- and post-intervention surveys were administered immediately after to the female audiences. Results: Study response rate was 74% (n=77). Majority of respondents were farmers (77.6%) and had no formal education (60.4%). McNemar test showed significant improvements in knowledge on menstrual cycle, hygiene management habits e.g. soap and water, how many pads should be changed per day (≥ 4), and more people agreed physical activity can relieve menstrual pain. Significant association was found between post- intervention hygiene knowledge and willingness to change more pads per day ($p=0.028$; Chi-square test). Willingness to practice physical activity was however not associated with post-intervention knowledge but with younger age ($p=0.013$; Chi-square test). Of note, gender of translators did not seem to affect the process of collecting data ($p>0.2$). Knowledge and practice retention remains to be discussed. Conclusion: Health education can be a good method to transfer knowledge about menstrual health to villagers. Socio-demographic factors, like age, should be included for promoting behavioural changes. Future menstrual health education should also include men.

Knowledge and Attitudes Affecting Teenage Pregnancy of Parents with Children Aged 10 to 18 in Selected Barangays in Manila City

Kimberly Louise Chua, Allyson Meg Bukuhan, Stephenie Joyce Bullo, Dom Nikolai Kalbit, Denzel Umerez, Maylin Palatino

University of the Philippines

Background. The proportion of teenage pregnancy in the Philippines has been increasing in the past years. The inadequate knowledge and poor attitudes of parents on teenage pregnancy may contribute to the problem. Methods. Cross-sectional design was used. Knowledge and attitudes of parents were collected through a validated self-administered questionnaire containing 13 True or False items that measured the parents' knowledge on teenage pregnancy and 31 statements to assess the parents' attitude on parent-child communication, teen sexual behaviour, and contraception. Respondents were classified as having good knowledge if they correctly answered at least 61% of the knowledge items. Results. Around half of parents (48.5%) had good knowledge on teenage pregnancy. Items about biology especially menstruation cycles had the least number of correct answers. Only 30.1% knew that it is possible for a girl to get pregnant during menstrual period while one-third knew the risk on the health of children of teen mothers. Parents believed that parent-child relationship is valuable in preventing teenage pregnancy, that children are less likely to have sexual intercourse if parents talk to them about sex-related topics, and that birth control and sexual decision making should be discussed within the family. They, however, thought that talking about sex make both children and parents uncomfortable; agreed that teens have sex when they are under the influence of alcohol or after watching or reading pornographic materials. They likewise disapproved of premarital sex, and provision of condoms to children.

Factors Influencing Child Marriage in Malaysia: A Qualitative Study

Ayako Kohno

Kyoto University

Child marriage, any marriage below 18 years old, is perceived as human rights violation by international community, thus careful strategies are needed to reduce them. This phenomenon still remain in Malaysia. The aim of this study was to identify factors influencing child marriage in Malaysia. Methods: We recruited women aged 18 to 49 years old who had the experience of first marriage below 18 years old, as well as the stakeholders, in two states in Malaysia; Kelantan and Sarawak. Women completed semi-structured interviews exploring perceived reasons for child marriage, and their perceptions of parents and communities regarding their early marriage. In addition, stakeholders were asked about their perception of child marriage. Interviews were conducted by trained interviewers, audio-recorded, and transcribed verbatim. Themes were developed using thematic analysis. Findings: Interviews were conducted with 39 women and 12 stakeholders. Total of eight themes were found. Among them, the most pertinent themes are; (1) girls' personality in early adolescence, (2) family poverty, (3) community tolerance for child marriage, and (4) religiosity. Stakeholder interviews were used to triangulate the findings. Conclusions: We found that child marriage in Malaysia is influenced both by girls' individual characteristics as well as the factors concerning parents, community and religion. It is important to adopt holistic approach when planning and implementing intervention programs for child marriage in Malaysia.

Determinants of Infant Mortality Rate in the Association of Southeast Asian Nations (ASEAN) Countries: An Empirical Study

Asef Raiyan Hoque, Mohammad Zahirul Hoque, Fumitaka Furuoka

Faculty of Business, Economics & Accountancy, University Malaysia Sabah; Faculty of Medicine & Health Sciences, University of Malaysia Sabah; Asia-Europe Institute, University of Malaya, 50603 Kuala Lumpur, Malaysia.

Background: The infant mortality rate (IMR) is a global public health problem and an indicator of health and development. United Nations Sustainable Development Goal (SDG) 3 targets to decrease the number of IMR. It varies among developing & developed countries globally. The present study aims to examine the determinants of IMR among ASEAN countries. Methods: For our empirical study, we have selected the 10 ASEAN countries: Brunei, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam. The source of the data is from the World Development Indicators (WDI) of The World Bank and World Health Statistics 2017 from World Health Organisation. For the statistical analysis, we used statistical & econometric software EViews version 10 (HIS Global Inc., Irvine, CA, USA). The data were analysed using Pearson's correlation and multiple regression analysis least squares method. We assumed that there are four factors determining the outcome of IMR. These are the total fertility rate (TFR), the Gross National Income per capita in terms of PPP (GNI), the health expenditure per capita in current US dollars (HEP) and the proportion of births attended by skilled health personnel (SHP). Results: The empirical results from the Pearson's correlation analysis shows that there is a significant relationship between IMR and all the four determinants. However, the empirical results from the multiple regression analysis indicate that there is a significant relationship between IMR and SHP. Conclusions: Our study demonstrates that in order to reduce the infant mortality rate we need to emphasize the development of skilled health personnel.

Increasing Access to Maternal and New-born Health Services from both Demand- side and Supply-side: Experience from a Rural District in Ethiopia

*Ding, Yan, Yan, Fei, Wang, Wei, Liang, Ji, Yang, Xiaoguang, Jiang, Hong, Qian, Xu
Fudan Global Health Institute, School of Public Health, Fudan University*

Background: One obstacle for Ethiopians to utilize maternal and new-born health services is limited access. A pilot project in Ethiopia aimed to increase access to facility-based childbirth, antenatal and postnatal care. This study as part of a final project evaluation explored its work on increasing access to identify good practices. Methods: Project monitoring data and data from local health information system was collected. Six interviews and 12 focus group discussions were conducted among key informants from authorities at provincial and district level, project fieldworkers, community health workers at village level (HEWs) and township level (midwives), community health volunteers (HDA), new mothers and religious leaders. Data were collected in June 2017. Results: Project outputs in increasing access include: 1) a better functioned ambulance service of picking up pregnant women from home to health centres was established; 2) 981 pregnant women stayed in maternal waiting areas for childbirth during the project period; 3) 184 pregnant women with high risks were referred to the project's maternal and child health centre; and 4) 148 assisted deliveries were provided at health centres which was purely contributed by the project. HDA and religious leaders observed more women and new-borns reached health facilities for services. All interviewees pointed out each referral to the maternal and child health centre was life-saving for both mothers and new-borns. Interpretation: Increasing access to maternal and new-born health services from both demand and supply sides was proved to be successful in this project.

A survey of postnatal health literacy in pregnant women at third trimester in Shanghai

Huang Qinjin

Fudan university

Background Information: The World Health Organization introduced the concept of health literacy in 1998, emphasizing that health literacy is an important factor in ensuring health conditions. Service users with high level of health literacy could be a facilitator to reach the universal health service coverage. Project Objectives: The study aims to investigate postnatal period health literacy of pregnant women in Shanghai and to explore the possible associated factors of the health literacy level in pregnant women. Materials and Methods: The cross-sectional survey was conducted in the late pregnant women at the community health centre. Through stratified random cluster sampling, 12 communities were extracted as the survey sites from total 46 communities in study area. We use a self-designed postnatal health literacy assessment scale with sound reliability and validity to collect data, which contains medical service, disease prevention and health promotion dimension. The full score is 100 and 80 points or more is the standard of health literacy sufficient rate. Results: From Sep to Nov 2017, 1311 pregnant women were investigated, including 741 primiparous and 570 pluripara. The average age was 31 years old (17~45) . The sufficient postnatal health literacy rate was 3.97%, the total weighted average score is 64.21 ± 9.37 (Table 1). Stepwise regression analysis results were showed in table 2 for associated factors (Table 2). Conclusions: The sufficient postnatal health literacy rate of late pregnant women was verylow. More attention should be paid on those less educated, low income and migrant women to achieve universal health service coverage.

CONCURRENT PANEL V

AGEING

MONDAY, 29 OCTOBER 2018

AKASIA ROOM, IGS

Associations of Childhood, Adult Socioeconomic Status with Health Outcomes among Middle-aged and Older Chinese

Zhongda Li

Peking University

Using data from the first wave of the China Health and Retirement Longitudinal Study (CHARLS), a nationally representative sample of middle-aged and older Chinese, this study, firstly examines the effects of childhood, adult socioeconomic status on several health outcomes (self-rated health, chronic disease status, cognitive function, and ADL/IADL disability), secondly tests the effects of social mobility in terms of rural-urban residence and intergenerational education. I find that childhood socioeconomic status exerts long-term effects on later life health, and achieved conditions play more important roles for all the outcomes among middle-aged and older adults in China. The effects of childhood socioeconomic status are mediated by adult conditions for self-rated health, ADL/IADL disability, but not for cognitive function, manifesting indirect and direct mechanisms respectively. This study also verify that health-related behaviours have marginal explanatory power for the effects of socioeconomic status. The results on social mobility show that social mobility and health in later life are linked in complex ways. Considering life course perspective and concentrating on a nexus of individuals' life events are very significant.

Different Perspectives towards Active Ageing among Thai Adults: An Internet- based survey

Somsak Wongsawass, Tumnoon Charaslertrangsi, Hiroko Miura, Eri Osawa, Marika Nomura

Mahidol University

Background: Thailand is becoming an ageing society in the very near future. The Thai Government have been promoting healthy and active lifestyle to community at large through the set-up of elderly school. Thus, this survey aimed to investigate how younger adults perceive the active ageing using the active ageing index, which include actual experience of active ageing and capacity to remain active upon ageing.

Materials and Method: An internet-based survey questions was developed from the modification of the active ageing index, and was distributed between June and July 2017. The questionnaire consisted of 5 parts: socio-demographic variable, self-perception of health, and perspectives towards active elderly, and consisted of 18 questions including participation in society domains, voluntary activities, care to children and grandchildren, and care to older adults. Levels of perception were compared between three-generation groups: baby-boomers, GEN X and Millennials by using Kruskal-Wallis tests, when the variables are not normally distributed. **Results:** General characteristics of sample (n=309) was described as follow: 25.3% were millennials, 50% were GENX and about 24.7% were baby boomers. About 64.7% finished college or university level. Most of the respondents are Buddhism (93.9%). More than half (51.5%) were company employees. More than 71% have had their annual check-up and only 13.5% were diagnosed with chronic disease. Among male Thai adults, no active ageing index were significantly different among different generations. Significant differences have been observed among female adults in voluntary activities, care to children, care to older adults, and political participation such as community meeting. **Conclusion:** Perspectives towards active elderly of Thai female adults were different among generation gap. Major concerns are involved in voluntary activities, care to children and grandchildren, care to older adults, and political participation among millennials than baby boomers. This survey reflected urban settings populations.

Is there an Obesity Paradox for fall among Participants of the Malaysian Elders Longitudinal Research (MELoR) Study?

Kioh Sheng Hui

University of Malaya

Background: Recent publish evidence have suggested that increased body mass index (BMI) is associated with favourable cardiovascular and mortality outcomes, so called the obesity paradox. We therefore evaluated the relationship between BMI and falls in a using the first wave dataset from the Malaysian Elders Longitudinal Research (MELoR) study. Methods: Individuals aged 55 years and older were selected through simple random sampling, stratified by ethnicity and age-deciles from the electoral rolls of three parliamentary constituencies in Klang Valley. History of falls in the preceding 12 months, basic demographics, medical history and social history were obtained during a home-based computer-assisted interview, while height, weight and physical performance were assessed during the hospital-based health check. Results: Data was available for 1,340 participants, mean age (standard deviation) = 68.4 (7.1) years, 57.1% women. Fallers were significantly older (69.6 (7.7) vs 68.0 (6.9) yrs, $p=0.002$), more likely to be women (64.5% vs 55.0%, $p=0.003$), and more likely to have diabetes (36.8% vs 26.8%, $p=0.001$) and osteoarthritis (25.8% vs 14.1%). Mean BMI was higher in fallers compared to non-fallers (25.9 vs 25.2, $p=0.020$). Additionally, older adults with increased BMI were significantly more likely to report falls, odds ratio=1.032; 95% confidence interval =1.005 to 1.059 per kg/m^2 change. This relationship remained statistically significant after adjustment for cofounders, adjusted odds ratio=1.036; 95% confidence interval=1.005 to 1.067. Conclusion: Increased BMI is associated with increased risk of falls in our population-based sample aged ≥ 55 years. The obesity paradox, therefore, does not appear to apply for falls in urban older Malaysians.

From super to ultra-super aging society: things have not been done in Taiwan

Hung Lun Chang, Hsiang Ting Song

Legislative Yuan, Taiwan, Institute of Science, Technology and Society, National Yang-Ming University, Taiwan

According to WHO's report, our planet is facing a serious problem - aging society. Although this conception has already been raised by UN at 1990, till now many countries are not fully prepared for it. Turn back to Asia region especially East Asia. Japan, the first country went into super aging society in 1995, and will go into ultra-super aging society by 2018. Forced to face this, Japanese government developed many policies, like long-term care insurance and employment promotion act. Japanese government has successfully solved problem they faced and her experiences are valuable for her neighbour - Taiwan. Taiwan, which has 22 million populations and 8% who are above 65 years old, has facing same problem since 2016 and will go into ultra-super aging phrase by 2020 and is still in struggle. Soon, Taiwan's elderly worker population will increase rapidly and dramatically. Taiwanese government not only started planning national long-term care insurance in 1998, established in 2010 and also proposed the median and high age people job promotion act in 2018. This study aims to analyse the policy decision made by Taiwanese government on dealing with a rapid growing elderly working force. Trying to answer the questions: "what are most important occupational health issue in elderly working force", "what policy has made to protect them" and "does those policy works?". This study will collect policy making process data from official paper published by executive yuan and legislative yuan from 1998 to present, which included all policy forming, law making.

Social Support among Older Adults: Patterns in a Rural Community

Tengku Amatullah Madeehah T Mohd, Farizah Hairi, Choo Wan Yuen, Noran Naqiah Hairi, Sajaratulnisa Othman, Norliana Ismail, Devi Peramalah, Shathanapriya Kandiben, Zainudin Mohd Ali, Sharifah Nor Ahmad, Inayah Abdul Razak, Awang Bulgiba

Julius Centre University of Malaysia (JCUM), Department of Social and Preventive Medicine, University of Malaya, Kuala Lumpur, Malaysia; Faculty of Medicine and Health Sciences, Islamic Science University of Malaysia, Kuala Lumpur, Malaysia; Julius Centre University of Malaysia (JCUM), Department of Social and Preventive Medicine, University of Malaya, Kuala Lumpur, Malaysia; Department of Primary Care Medicine, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia; Tobacco Control Unit, Ministry of Health Malaysia, Putrajaya, Malaysia; Negeri Sembilan State Health Department (JKNNS), Negeri Sembilan, Malaysia

Ageing leads to dependency of older adults on the people surrounding them. Social support provided by these people give older adults emotional and material resources necessary for healthy ageing. Social support has been found to be associated with mortality, morbidity and quality of life. A cross-sectional study from a baseline cohort was conducted to examine social support among 2324 community-dwelling older adults aged 60 years and above in Kuala Pilah, Negeri Sembilan. The Duke Social Support Index (DSSI) was used to measure social support. Overall, the DSSI mean score was 27.33 (SD 3.35) indicating good overall support. The components of the score showed that that structurally, 70.39% of older adults had more than two close friends living nearby. Nearly half spent time meeting (48.72%) and talking to people on the telephone frequently (52.65%). Emotionally, older adults felt understood (85.16%) and listened to (83.46%) most of the time. Involvement with family and friends were also high with 86.09% feeling useful, 86.09% know what's going on and 83.02% play a role among family and friends most of the time. In addition, satisfaction with the relationships was high with 83.28% feeling satisfied. However, despite all the available support, only 58.61% of them have confidants. Overall, there is good social support available to rural community-dwelling older adults but there are some areas that need to be given attention.

Healthcare Practices of a Rural Community-Dwelling Population with Non-Communicable Diseases

Awatef Amer Nordin

University Malaya

Healthcare use has been cited to be high, especially among older adults, who are often afflicted by non-communicable diseases (NCD). However, for those in rural areas, concerns arise in terms of provision and delivery of adequate care. In a cross-sectional analysis of baseline data relating to a cohort of 2324 rural community-dwelling older adults aged 60 years and above in Kuala Pilah, Negeri Sembilan, it was found that 69.45% (N=1614) of the study population had at least 1 NCD from a list of 8 NCD. By age group, this corresponded to 67.18% of those aged 60-69 years, 72.84% of those aged 70-79, and 67.56% of those aged 80 and above. The most common NCD were hypertension (52.84%), hyperlipidemia (33.56%) and diabetes (26.94%). Almost half of the older adults with NCD (47.09%, N=760) had a health problem that required care services and majority had these issues addressed (99.34%, N=755). The type of health facility visited were more commonly public facilities (83.47%, N=626). In addition, these older adults also obtained various health supplementation products as health promotion (26.46%, N=426). In terms of inpatient care, 5.08% (N=82) had hospitalization in the preceding 1 month and 15.33% (N=1611) had hospitalization in the past 1 year. This preliminary analysis hints that even in rural areas, non-communicable diseases are a significant health issue and sustainable health services need to prepare towards not only addressing chronic illnesses but in elderly friendly settings.

CONCURRENT PANELS

ORAL PAPER PRESENTATIONS

TUESDAY, 30 OCTOBER 2018

SESSION 1

CONCURRENT PANEL I

INFECTIOUS DISEASES

TUESDAY, 30 OCTOBER 2018

SEMINAR ROOM 1, RMIC

The real-world application of malaria Rapid Diagnostic Test (RDT) and its challenges in the setting of malaria elimination: an intervention-control study in Jiangsu Province, China

Jia-jie Jin, Jun Cao, Wei-ming Wang, Yuan-yuan Cao, Guo-ding Zhu, Hua-yun Zhou, Jia-yan Huang

School of Public Health, Fudan University; Key Laboratory of Health Technology Assessment, National Health Commission, China; Jiangsu Institute of Parasitic Diseases, Key Laboratory of National Health Commission on Parasitic Disease Control and Prevention, Jiangsu Provincial Key Laboratory on Parasite and Vector Control Technology, China

Objectives: To investigate the application of malaria Rapid Diagnostic Test (RDT) and its challenges in malaria elimination phase from a real-world perspective, thus providing empirical evidence for the fair use and management of RDT in countries/regions towards the goal of malaria elimination. **Methods:** We selected 996 healthcare institutions and laboratory technicians respectively in China's Jiangsu Province to participate in the institution and individual level survey. Then a one-year intervention-control study was conducted in four prefecture-level cities with the other cities as controlled areas in Jiangsu Province. The intervention effect was evaluated from institutional malaria diagnostic capabilities, and primary professionals' RDT-related Knowledge, Attitude and Practice (KAP) and satisfaction survey results. **Results:** RDT's operational and technological advantage was generally recognized by healthcare professionals after its wide use since 2011. The study developed an intervention strategy package of RDT application with four major measures as effective RDT test strips supply, regular training programs, enhanced health education to target population, and overall management of RDT supply and use. After one year of intervention, the time interval between malaria patients' first visit and final diagnosis was shortened and the proportion of severe malaria cases decreased significantly. Healthcare professionals showed a significantly higher RDT-related KAP and satisfaction towards RDT. **Conclusion:** The primary-level laboratory technicians currently welcomed the RDT application with precautions. The optimized strategy of RDT use and management in Jiangsu Province showed good effects in Jiangsu Province, which could be used as an reference for other countries/regions working towards the malaria elimination goal.

Factors Associated with Treatment Outcome of Patients with Pulmonary Tuberculosis in the Philippines

Joshua Jason A. Dadural, Fatima Joy S. Gagui, Angelica Joy A. Galas, Sophia Anne S.P. Liao, Ian Oliver D. Macatangay, Raymond Dorutheo Francis A. San Antonio, Paul Adrian V. Pinlac, MD, MPH, MSc

University of the Philippines Manila

Despite meeting the Millennium Development Goals treatment success rate target (TSR) of >90% and reaching up to 92% in 2015, Regions IV-B, Autonomous Region of Muslim Mindanao, and National Capital Region have TSR <90%. TSR remains at 49% among drug-resistant tuberculosis cases, far from the target of 75% in 2016. Tuberculosis patient characteristics could be studied to determine underlying factors that may affect treatment outcomes (TO). As these vary widely among countries, this study would provide a local context for the Philippines. An analytic cross-sectional study was employed to determine the factors associated with tuberculosis TO through a secondary data analysis of administrative data collected by the National Tuberculosis Control Program from October 2015 to September 2016. Among the 338,376 records included in the study, 8.73% had unsuccessful TO. Ninety-two percent of the drug susceptible patients had successful TO. Sixty percent of patients with RR-/MDR-TB had unsuccessful TO, where 43.82% of those with the said resistance were lost to treatment follow-up. Multiple logistic regression analysis revealed that belonging to age groups 25 to 34 (aOR=0.73; 0.54-0.99) or 35 to 44 (aOR=0.75; 0.56-0.99), being male (aOR=1.30; 1.03-1.64), doing crafts and related trades work (aOR=0.66; 0.46-0.94), living in either a 4th class city (aOR=0.46; 0.26-0.82), 1st class municipality (aOR=0.75; 0.57-0.98), 4th class municipality (aOR=0.59; 0.38-0.93), having a positive sputum smear result (aOR=1.60; 1.29-2.00), having RR-/MDR-TB (aOR=9.32; 7.28-11.93), being on treatment after being lost to follow-up (aOR=1.84; 1.37-2.47) or a case with previously unknown TO (aOR=1.42; 1.00-2.01) were significant correlates of unsuccessful TO.

Association between Health Literacy and Dengue Awareness among Adolescents in Malaysia

Asma' Binti Mohd Hussin

University Of Malaya

Health literacy is closely related to global public health as it implies one's ability to understand and apply health information to make rational health decisions. Whereas dengue is a global health problem which the number of deaths in Malaysia is rising in an alarming rate. Therefore, we are interested to study on both topics among adolescents, a group less studied in both topics. We are also interested to know whether increased health literacy would upsurge the level of dengue awareness. Pre and post bilingual questionnaires were distributed to students in public secondary school with a 30-minute educational component on dengue and health literacy in between. A total of 136 students had completed the study. The results showed that health literacy has improved from mean score of 46.04 ± 7.85 to 49.85 ± 8.64 [$t(135) = -5.983$, $p < 0.0001$] post-intervention. Dengue awareness has also improved from mean score of 5.30 ± 1.492 to 6.26 ± 1.46 [$t(135) = -7.221$, $p < 0.0001$] post-intervention. The questions on dengue awareness are divided into 3 components (knowledge on Aedes, symptoms, prevention), which all had shown improvement post intervention, with significant differences noted in the latter two ($p < 0.001$), as shown in Table 1. The study also revealed a positive correlation between health literacy and dengue awareness ($r = 0.239$, $n = 136$, $p = 0.005$) during the pre-intervention phase as shown in Figure 1. In conclusion, increased health literacy is associated with increased dengue awareness among adolescents. Besides, both health literacy and dengue awareness among adolescents showed improvement post intervention.

Soil Transmitted Helminth Infection and Associated Risk Factors among School Children in a Selected Barangay in the Philippines

Gil Soriano, Ma. Gladys B. Aquino

San Beda University-College of Nursing, De La Salle Medical and Health Sciences Institute

Soil-transmitted helminth infection remains to be one of the leading public health problem worldwide, which is common in the rural developing regions especially among children. This study aimed to detect the presence of soil transmitted helminths among children and its associated transmission factors. Descriptive cross sectional research was the design used in the study and questionnaires were administered. Stool samples were collected among the samples (n=108) and were analyzed using kato thick method. Results showed that 61 out of 108 respondents are infected by soil transmitted helminth infection with *A. lumbricoides* the highest, followed by hookworm and *T. trichuria*. Parent's educational attainment, hand washing practices, and water sources were found to be associated with presence of Soil Transmitted Helminth infection.

Factors Associated with Influenza Vaccination Uptake among Healthcare Workers in Perak

Rosidah Omar

Social Preventive Department UM

Introduction: Annual influenza vaccination is very important to protect HCWs but the uptake remains low. Factors associated with the uptake of the influenza vaccine need to be studied. Objective: The objectives of this study is to measure the prevalence of influenza vaccination and to determine the factors associated with the influenza vaccination uptake. Methodology: A cross sectional study using a self-reported questionnaire was conducted among 775 nurses and assistant medical officers at two specialist hospitals in Perak. Sociodemographic, knowledge, behaviour and health literacy were measured. Influenza vaccination uptake was based on influenza season 2016/2017. Result: The influenza vaccination uptake was 25.5%. We found differences between vaccinated and non-vaccinated groups for departments, knowledge, social influence and critical health literacy ($p < 0.05$). Univariate logistic regression showed differences between the group in the Departments of Obstetrics & Gynaecology (O&G), Paediatric, Anaesthesiology and Emergency compared to other departments, good knowledge, motivating factors and high critical health literacy ($p < 0.05$). Multivariate logistic regression showed that working in the Department O&G and Orthopaedic decrease the likelihood of getting vaccinated (OR 0.1, 95% CI 0.04-0.23) (OR 0.48, 95% CI 0.23–0.97) respectively. Meanwhile, working in Emergency department increase the likelihood of getting vaccinated almost four times higher (OR 3.79 CI 1.43-10.00). Adding to that, working as community nurses also increases the likelihood of getting vaccinated almost seven times higher (OR 6.80, 95% CI 1.09 – 42.50) ($p < 0.05$). Conclusion: The prevalence of influenza vaccination is low. We observed differences in the workplace and occupation type. The identified factors could inform future vaccination campaigns.

Exploring Awareness on HIV and Patterns of Testing Among LGBT Members IN BATAAN, PHILIPPINES

Joel S. Castro, MAlEd, Dr. Ronnell D. Dela Rosa

E. Bernabe National High School, Schools Division of Bataan of the Department of Education Philippines; Graduate School, Bataan Peninsula State University

Understanding HIV testing practices is important in the development of interventions to promote testing not only among young gay and bisexual men but also to other members of the LGBT community. Relevant interventions which seek to increase rates of HIV testing and testing frequency among young gay, bisexual men, lesbians and other members of the LGBT community should be strategized in various activities in promoting and supporting positive testing practices within support and peer group. This study revealed the 343 LGBT members who served as participant of this study are becoming strongly aware on the risks of acquiring the disease but HIV prevention education in Philippine schools is woefully inadequate and the commercial marketing of condoms to MSM populations is nonexistent. Abstinence is still considered as the least option of not having HIV while use of condoms is considered as the most preventive measure of not acquiring the disease. Likewise, 10.0 percent of the participant are routinely committing to HIV testing to accredited sites while 40.0 percent were first time to be screened. Among 343 LGBT members only six were found reactive to HIV testing but were subjected for confirmatory testing and referred to HIV counselors. It is vital now to provide a good avenue and clearer information on the need to access preventive treatment in HIV. Educational campaign is still considered as primary tool in addressing the awareness on HIV. Various satellites that offers free testing is highly suggested to reach out at risks individuals to HIV.

CONCURRENT PANEL II

NON-COMMUNICABLE DISEASES

TUESDAY, 30 OCTOBER 2018

SEMINAR ROOM 2, RMIC

Increasing prevalence of metabolic syndrome in Asia Pacific countries: a meta-analysis of 12.73 million subjects

Junjie Huang, Jason LW Huang, Jingxuan Wang, Peter Choi, Tiffany Pang, Veeleah Lok, Xiaohui Yuan, Xianghai Zeng, Vincent Chung, Martin CS Wong

School of Public Health, Chinese University of Hong Kong, Faculty of medicine, Shenzhen University; School of Public Health, Chinese University of Hong Kong

Background: Metabolic syndrome (MetS) induces a substantial disease burden in different countries. Few studies examined its prevalence in Asia Pacific regions across time. We examined the overall temporal trend and regional variation of its prevalence. Methods: We searched MEDLINE and Embase for population-based, observational studies that reported the prevalence of MetS in Asia Pacific countries. We included studies with study participants aged ≥ 15 years and a sample size of ≥ 500 participants. We used Freeman- Tukey Double Arcsine Transformation to stabilise the variances and Metaprop to model within-study variability by binomial distribution. We estimated the prevalence and their 95% confidence intervals (CIs) by random-effects models. Results: We included 176 studies from 18 countries investigating a total number of 12,735,227 individuals. Its prevalence was rapidly rising from 1991-1995 (18.1%) to 2011-2015 (27.0%) (Figure 1). The overall prevalence of MetS was 23.7% (95% CI=22.4% to 25.1%). Its prevalence was higher in Oceania (31.5%) and South Asia (31.5%) than Southeast Asia (23.8%) and East Asia (21.9%) (Figure 2). For individual countries, we observed higher prevalence in Pakistan (59%), Samoa (41.9%), India (33.6%), Malaysia (33.2%), Mongolia (32.8%) and Australia (30.1%). The prevalence was relatively low in Singapore (12.1%), Japan (14.7%), Thailand (17.7%), Vietnam (18.0%), Taiwan (20.4%) and Bangladesh (20.5%) (Figure 3). Conclusion: We identified a major increase in prevalence of MetS over time in Asia Pacific regions. The prevalence was over 30% in Pakistan, Samoa, India, Malaysia, Mongolia and Australia. These represent target populations where more preventive and treatment strategies should be implemented.

Global Kidney Exchange: A Case Study

Siegfredo Paloyo

UP-Philippine General Hospital

Innovative solutions are required to overcome the organ shortage. The cost differential between dialysis and transplantation in some countries allows the exchange of kidneys between pairs in a developed-world country with pairs in a developing-world country. Three international pairs of ESRD patients (two pairs from the Philippines and one from Mexico) were unable to pay for dialysis or transplantation in their countries of origin. A US non-profit paid for their evaluation and dialysis locally prior to travel to the US. Two bridge donors and one non-directed donor (NDD) with no match in a US KPD pool donated their kidneys to the recipient of these international pairs producing an international donor to continue the Global Kidney Exchange (GKE) chain. The first GKE chain ended with a donation to a US waitlist candidate and twelve kidney transplants were produced. Six US recipients had Medicare and five US recipients had commercial insurance. The transplant cost for the Filipino recipient was paid for by a non-profit organization. An additional \$50,000 was reserved for subsequent immunosuppression and donor/recipient follow-up in the Philippines. After two years the Filipino donor and recipient have excellent renal function. The savings from transplanting 11 U.S. patients compared with the cost of dialysis will exceed \$3M over the next 5 years. The two additional GKE chains have thus far produced a total of 11 transplants and both have bridge donors scheduled to continue each chain. Global kidney exchange provides a unique solution to the lack of available donor kidneys.

Solving the issue of kidney transplantation in Malaysia: A stakeholder qualitative study

Peter Gan

University of Malaya

The number of end-stage renal disease (ESRD) is increasing globally and especially in Malaysia. Although kidney transplantation is considered the preferred treatment for ESRD, but the KT rates have been static when ESRD increases exponentially. This study seeks to explore the views of a range of stakeholders regarding improvements to the current KT service in Malaysia that would facilitate better transplantation rate. Between March and April 2018, semi-structured interviews guided by socio-ecological model were conducted with 8 stakeholders representing 6 key decision-making bodies in KT. In-depth interviews were audiotaped, transcribed, and analysed using thematic analysis approach. Themes identified as important conditions for the establishment of a successful KT service were: personal, inter-personal, community, institutional and policy or system. Suggestions, like increasing benefits to surgeons and providing training, were proposed for challenges related to human resource shortage, while the allocation of funding and revision of the current legislations on transplantation were proposed for challenges related to the public policy and healthcare system. There was also broad support for more proactive preventive measures to be taken to reduce incidence of non-communicable disease that are the main culprits for ESRD. This study has demonstrated support for policy reforms that reflects the priorities of patients with ESRD based on scientific evidence and not politics. These anecdotal accounts by stakeholders provides the health system with information on what needs to be in place for successful KT service. Further stakeholder engagement is required to align the KT service in Malaysia comparable to a high-income country.

Do we know the predictors for smoking cessation practice among healthcare providers in Malaysia?

Siti Idayu Hasan, Farizah Mohd Hairi, Amer Siddiq Amer Nordin

Department of Social & Preventive Medicine, Faculty of Medicine, University of Malaya; Nicotine Addiction Research Collaboration Group UMCAS, University of Malaya; Julius Centre University of Malaya; Department of Psychological Medicine, Faculty of Medicine, University of Malaya

Introduction: Healthcare providers are in an ideal position to provide smoking cessation intervention. Unfortunately, many of them fail to provide support due to several factors. Objective: To determine the predictors for smoking cessation practice among healthcare providers in Malaysia. Methods: A cross sectional survey was conducted in Malaysia among 1004 healthcare providers from January until December 2016. A validated self-administered questionnaire, ProSCiTE, which contained 84 items, assessed health care providers' knowledge, attitude, self-efficacy, practice behaviour and barriers on smoking cessation intervention was distributed to the participants. Descriptive statistics and bivariate correlations were determined for all the variables. The odds ratio was calculated to examine the predictors for practice behaviour. Results: Among 1004 invited healthcare providers, 934 completed the survey, yielding 90.0% response rate. Majority of the healthcare providers were female (61.8%). Correlation analysis showed that knowledge, attitude and self-efficacy have positive significant association with practice behaviour of smoking cessation intervention. Knowledge (AOR =1.54, 95% CI: 1.15 - 2.05), attitude (AOR = 1.44, 95% CI: 1.44 - 2.69) and self-efficacy (AOR= 4.74, 95% CI: 3.55 – 6.33) are the predictors which contributed to practice behaviour of smoking cessation intervention. Conclusions: The significant association between training and knowledge, self-efficacy and practice behaviour provided local evidence, which supported our suggestion in emphasising on a skill-building approach among healthcare providers' education. Training program using evidence-based interventions for healthcare providers could initiate and help practice of smoking cessation intervention in order to improve smoking cessation outcome in the future.

Rethinking the Strategies of Preventing Ischemic Heart Diseases

Zakaria A. Almsherqi

National University of Singapore

Crucial advances in our understanding of basic pathogenic mechanisms of cardiovascular diseases and their nutritional risk factors—including overweight and obesity, elevated blood pressure, and cholesterol—have been achieved during the past decades. The historical hypothesis of pathogenesis “lipid accumulation” at vascular wall has evolved to integrate several pivotal events contributing to the initiation and evolution of ischemic heart disease (IHD). Clearly, dyshomeostasis, particularly at the coronary vascular level, plays a critically important role in the occurrence of IHD. In addition to flow-limiting stenosis, many other mechanisms likely contribute to this very complex syndrome. A synergic action between genetic, ambient, local, and systemic factors, and ultimately the progression of IHD and its complications. Preventing obesity and lifestyle modifications without the pharmacological treatment has been seen as the optimal strategies in averting IHD, however, primary prevention programs aimed at reduction of risk behaviours on a population-wide basis and the identification of high-risk individuals prior to their development of disease should be cornerstones of any approach to reduce the population's burden of IHD. Also, prevention strategies should begin in childhood. The healthcare system should benefit from population-wide efforts via health education, environmental intervention, or legislation to reduce the burden of deleterious health behaviours. Policy makers, employers, and community leaders look to healthcare providers to postulate advice and leadership. Both the capacity to prevent IHD and the will to implement policies and programs will be necessary to reduce IHD and communities and physicians' organisations

Knowledge, Attitude and Practice of Human Papilloma Virus Immunization among Urban Women in Kuala Lumpur

Sundarambal Muthu, Prof. Hematram Yadav, Subramaniam Karuppannan, Mohamed Khalifa

MAHSA University, Saujana Putra Malaysia

Background: Human papillomavirus (HPV) is one of the most common causes of sexually transmitted disease and is globally known to be a risk factor for cervical cancer. World Health Organization (WHO) reports 84% of the cervical cancer deaths occur in developing countries and is a leading cause of cervical cancer in women. In Malaysia cancer of cervix is the second most common cause of death among the women. About 2,145 cases are diagnosed annually and 621 cervical cancer deaths occur annually. Realizing the potential benefit of HPV immunization and to reduce the burden of cervical cancer in Malaysia, many countries in the world including Malaysia introduced HPV immunization as a primary prevention method of cervical cancer. Objectives: This study is aimed to determine the level of knowledge, attitude and practice of HPV immunization among urban women in Kuala Lumpur. Methods: A cross sectional study was conducted from April to October 2017 420 women having a daughter of 13 to 20 years responded in this study. The participants were selected using random sampling method. Data was collected by face-to-face interview using standardized and validated questionnaire. Data analysis was done using SPSS version 19. Results: The mean age of the respondents' daughters were 16.48 years. Among the 420 respondents 36.1% had good knowledge towards HPV Immunization while 39.5% responded with positive attitude towards HPV immunization. There was a moderate positive correlation between knowledge and attitude score ($r=0.445$). Immunization prevalence in the present study was at 90%. From the balance 10% twenty-two respondents did not have any immunization and another twenty were not sure of their immunization status. This was due to missed opportunity and fear of vaccine content. Conclusion: The knowledge and attitude among the urban women in Kuala Lumpur influenced the practice of Human Papilloma Virus immunization.

CONCURRENT PANEL III

ENVIRONMENTAL HEALTH & DISASTERS

TUESDAY, 30 OCTOBER 2018

CUBE ROOM1, IGS

Urban Heat Island and Public Health in Greater Kuala Lumpur

Logaraj Ramakreshnan, Nasrin Aghamohammadi, Fong Chng Saun, Nik Meriam Sulaiman, Wong Li Ping

Centre for Occupational and Environmental Health, Department of Social and Preventive Medicine, Faculty of Medicine, University of Malaya; Department of Chemical Engineering, Faculty of Engineering, University of Malaya

Canopy-level Urban Heat Island (UHI) and its associated health impacts have become an emerging threat to Greater Kuala Lumpur (GKL) due to different thermal properties between urban and the surrounding sub-urban settings. This study investigated the temporal variations of canopy-level UHI in selected urban stations, Petaling Jaya (PJ) and Subang (SUB), of GKL using 2016's hourly data set obtained from meteorological observatories of MetMalaysia. The findings revealed positive thermal contrasts between urban and sub-urban stations with maximum UHI during dry, southwest monsoon season in PJ (June: 1.68 °C) and SUB (August: 1.29 °C) stations. Notably, PJ station exhibited a distinct diurnal trend with the maximum nocturnal UHI of 1.71 °C at about 8 pm after sunset under ideal meteorological conditions. The results also demonstrated that UHI events occurred more frequently at nights in the magnitude range of 0-2 °C. Cooling at all urban sites starts around 2-3 pm with the highest rate of 0.73 °C/h and 0.96 °C/h in PJ and SUB stations. The findings of this study alerts that elevated temperatures in an urban agglomeration like GKL can affect the community's environment and quality of life of sensitive population. Exacerbated daytime temperatures coupled with higher air pollution levels in urban stations deteriorate human health by inducing thermal discomfort, respiratory illnesses, heat cramps, exhaustion, heat stroke, and heat-related mortality. Therefore, upcoming studies need to focus more on developing guidelines, recommendations, suggestions and frameworks to highlight the health issues of UHI to educate the society to self-sustain the associated health impacts.

The Deterioration of Outdoor Thermal Comfort as an Emerging Threat to Tropical Cities

Fong Chng Saun, Nasrin Aghamohammadi, Logaraj Ramakreshnan, Nik Meriam Nik Sulaiman

Centre for Occupational and Environmental Health, Department of Social and Preventive Medicine, Faculty of Medicine, University of Malaya; Department of Chemical Engineering, Faculty of Engineering, University of Malaya, 50603 Kuala Lumpur, Malaysia

Global climate change phenomenon and rapid urbanisation in major cities of Southeast Asia (SEA) are negatively impacting the well-being and liveability status of the public in terms of deteriorating outdoor thermal comfort (OTC) level. The current study provides an overview of published studies that evaluated thermal comfort conditions in the outdoor setting of tropical SEA. A title search was conducted to gather peer-reviewed articles using “thermal comfort” as key phrase. Abstract screening is then conducted to include only related published studies for the review in this study. A constant rise in temperature especially in the city centre due to urban heat island effect will lead to more cases of elevated surface temperatures and heat waves event causing thermal discomfort, heat-related illness and even mortalities. Hence, the declining OTC as a direct impact from climate change phenomenon should be of public concern as vulnerable populations in the city, particularly children, elderlies, pregnant woman and those with existing health conditions are at higher risk from this deterioration of OTC level. Despite its importance, the significant lack of studies on OTC in the tropical SEA highlights an urgent need for more studies to be conducted. On top of that, the relationship in between health issue and OTC has remain unexplored in this region. More studies are needed to fill the knowledge gap especially when it comes to thermal comfort in urban outdoors which is believed to contribute to the capacity building of a resilient community towards global warming events in near future.

Assessment of Population Exposure to Urban Surface Thermal Environment in Yangze River Delta, China

Yuanjian YANG, Steve H.L. YIM, Manyu Zhang, Jiawen Li

Institute of Environment, Energy and Sustainability, The Chinese University of Hong Kong; Department of Geography and Resource Management, The Chinese University of Hong Kong; School of Remote Sensing and Geomatics Engineering, Nanjing University of Information Science and Technology

Under the background of global warming and the rapid urbanization, high Surface Thermal Environment (STE) became one of the leading factors which influences the urban ecological environment, extreme climate events and human health. In this paper, taking rapid-urbanized Yangze River Delta in China as an example, a Population-Weighted Urban Surface Thermal Environment index (IPWUSTE) is constructed with MODIS-based Land surface temperature and spatial population retrieved from night-time light satellite observations. The results show that the spatial distribution of IPWUSTE corresponds well with the actual distribution of the urban land covers with their STEs. Firstly, IPWUSTE can consider and reliably reflect the anthropogenic effects on urban surface, because spatial IPWUSTE matches well with spatial population and city size. Secondly, IPWUSTE is also useful to understand and reveal the impacts of urban heat island on human health and activities. Specifically, through contrasting the population-weighted urban STE with land use and land cover, it can be found that in low and sub-low temperature zones, where populations are low-density, cultivated land, vegetation and water are the main contributors, while in sub-high and high temperature zones, where populations are high-density, built-up areas become dominant, and in the medium temperature zone contributions from cultivated land and built-up areas are mixed. In general, IPWUSTE can be easily applied in the urban areas for the assessment of heat exposure of population, and further in the municipal planning to alleviate the summer heat waves, which are caused and intensified by the imbalance of urban surface thermal environment patterns.

Protracted displacement and health correlates among survivors of Typhoon Haiyan: Analysis of health status among affected communities in Eastern Philippines

Charlie E. Labarda

Department of Psychology, University of Hong Kong; School of Health Sciences, Univ of the Phils Manila

Objectives: The association between displacement after disaster and mental health outcomes among survivors of the 2013 Super Typhoon Haiyan (locally: Yolanda) in the Philippines was explored in this study. In settings that are highly vulnerable to disasters, it is important to examine the impact of post-disaster household displacement on health status of populations affected by Super Typhoon Haiyan. We looked at protracted displacement and impact on sleep, mood, perceived stress, post-traumatic stress, and perceived needs. **Methods:** The study surveyed 345 survivors using randomized cluster samples in Eastern Visayas, Philippines, 3-4 years after the disaster using self-report measures to assess health status. **Results:** Displacement was found to be negatively associated with subjective health ratings and positively associated with posttraumatic stress symptoms, insomnia, anxiety, stress and trauma exposure. **Conclusion:** Findings underscore the association of displacement to poor health outcomes, in the background of a major disaster. Implications to public mental health interventions in disaster settings, especially in contexts where mental health resources are largely unavailable, are discussed.

WaSH Facilities and Diarrhea Occurrence at the Eco-zones of Abra de Ilog, Philippines: A Comparative Assessment

Fevi Rose Cortezano Paro

University of the Philippines

Eco-zones – upland, lowland and coastal areas – have varying accessibility to resources like water. Variability in water sources influences hygiene and sanitation facilities and WaSH- related impacts like diarrheal diseases to vary, as well. This ecologic study determined the link between the completeness of WaSH facilities and diarrhea occurrence at the eco-zones of the Municipality of Abra de Ilog. A total of 418 households served as respondents and mixed participatory methods were used. Results showed that the upland eco-zone had the highest proportion of households with diarrhea (64.04%) regardless of whether they have complete, incomplete or no WaSH facility at all, followed by the coastal (34.57%) and lowland (16.20%) eco-zones. Further, >60% of households having incomplete facilities – drinking water and handwashing facilities only – had experienced diarrhea. Hence, in this case, the absence of toilet facilities, increases risk for diarrheal disease. Thus, construction of sanitary toilet facilities in all eco- zones where there are none is recommended particularly in the upland eco-zone which needs immediate attention on sanitation. In conclusion, the presence of a complete set of WaSH facilities – a potable drinking water source, improved sanitary toilet facility and handwashing facility at each household – will guarantee lower diarrheal disease burden. Incomplete WaSH facilities will, therefore, more likely lead to the occurrence of diarrhea irrespective of eco-zone. Nonetheless, having incomplete facilities is relatively better than not having any facility at all.

Air Pollution Trend and Factors Associated with Haze Episode in Selangor

Mohd Hafiz Bin Jaafar , Maznah Binti Dahlui, Marzuki Bin Isahak

Department of Primary Care, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia; Centre of Population Health, Department of Social and Preventive Medicine, Faculty of Medicine, University of Malaya; Department of Social and Preventive Medicine, Faculty of Medicine, University of Malaya

Selangor had been affected by multiple haze events with the worst episode occurred in 1997. This study described the air pollution trend and factors associated with haze episode in Selangor. Daily air pollutants and ecological factors data were retrieved from Department of Environment (DOE) for all Continuous Air Quality Monitoring (CAQM) stations in Selangor from 2012 until 2015. The mean (SD) concentration level for PM₁₀ was 64.9 (43.67) µg/m³. For other pollutants, the mean (SD) concentration level was 1.4 (0.71) for O₃, 51.7 (20.17) µg/m³ for CO, 4.9 (2.33) µg/m³ for SO₂, and 37.5 (14.02) µg/m³ for NO₂. As for the ecological parameters, the average reading for wind speed, temperature and humidity was 10.2m/s, 32.7oC and 89.2% respectively. 3419/5825 (58.7%) readings were classified as haze episode. Univariate analysis showed that all parameters were significantly associated with haze episode ($p < 0.001$). In multivariate analysis, apart from temperature, other parameters were the significant predictors of haze episode in the final regression model. Except for PM₁₀, the average daily concentration levels recorded by O₃, CO, SO₂ and NO₂ were within target levels set by both Malaysian guidelines and World Health Organization Air Quality Guidelines (WHO AQG). Apart from transboundary source, local anthropogenic factors also contributed significantly towards deterioration of air quality in Selangor. Any future policy with regards to the abatement or mitigation of air pollution impact should give full attention and concern to both factors as well.

Assessment of Environmental Impact on Sustainability of Traditional-medicine practice in Nigeria

Tijjani RG, Norazlina M, Muhammad BM, Umar I.

Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur- Malaysia; Faculty of social sciences and humanities, Universiti Kebangsaan Malaysia, Kuala Lumpur- Malaysia; International Institute for Global Health, United Nation University, Kuala Lumpur-Malaysia

With about 80% of people in developing countries relying on ethno medicines to maintain their livelihood, traditional medicine practices (TMP) have been reported to provide health care for over half of the world's population. Traditional medicine Practitioners largely rely on knowledge base of local plants and herbs, as well as spiritual beliefs that has been developed over centuries. Because this knowledge base is known to vary according to geographical environments and cultures, changes in the environment pose a great threat to TMP. Thus, understanding how this challenge impacts on sustainability of TMP in local communities is desirable in providing useful data that could be used to preserve the much- needed knowledge base required for TMP. In this study, we aim to assess, from the Practitioners' point of view, the impact of climate change on TMP in Nigeria and make recommendations that will be useful in assuring sustainable supply of ethno medicines. Via assigned coordinators from universities domiciled in 6 geopolitical regions of the country, 1200 questionnaires (consisting of 26 questions) were administered to indigenous practitioners (with > 20 years' experience) in local communities. Although the study is still ongoing, literature review has identified "rural-to-urban drift of people as well as practitioners", "disrupted ecosystems" and "damaged natural environment" as climate- linked factors that affect cultivation of medicinal plants as well as passage of important medicinal information from generation to generation

CONCURRENT PANEL IV

AGEING & MENTAL HEALTH

TUESDAY, 30 OCTOBER 2018

CUBE ROOM 2, IGS

The Effect of Dzikir and Prayer Therapy to Depression Level among Elderly at Social Institution Tresna Werdha Abiyoso Sleman Yogyakarta

Lalu Muhammad Anshori, Warjani, Aprizal Satria Hanafi

University of Indonesia, University of Ahmad Dahlan, University of Indonesia

Background: Elderly is the late stages of human life cycle that cannot be avoided and will be experienced by each individual. The psychological problem which often happens in the elderly is depression. Psychoreligius therapy is one type of psychotherapy which combining approach to the health of modern life and approach aspects of religious. Activities of psychoreligius therapy in Islamic religion included by pray, dzikir, prayer and reading holy Qur'an. This research aims to know the effect of dzikir and prayer therapy on depression level among elderly at social institution Tresna Werdha Abiyoso Sleman Yogyakarta. Methods: The type of this research was pre-Experimental with one group pre-test and post- test design. Subject of this research was clients at social institution Tresna Werdha Unit Abiyoso who moslem some 46 respondents. Data collected by direct interview to the respondents using Geriatric Depression Scale questionare to regulate depression level before and after the giving of dzikir and prayer therapy. This research used analysis univariat and bivariat was T-test dependent. Result: Dzikir and prayer therapy gave a significant effect on depression level among elderly, marked by decline the average of pre-test 5,37 with deviation standard 2,122 became the average of post-test 4,37 with deviation standard 1,768. The result of T-test dependent showed p-value 0,000 was smaller than the level of the determined significance that was 0.05. Conclusion: There was effect of dzikir and prayer therapy on depression level in the elderly at social institution Tresna Werdha Abiyoso Sleman Yogyakarta.

Environmental Risk Factors that can Cause the Elderly to fall: Study on Elderly Home Jakarta, Indonesia

Indri Hapsari Susilowati, Bonardo Prayogo Hasiholan

Universitas Indonesia, Universitas Indonesia

Elderly is a group of ages who have degenerated in various aspects of their life. Therefore, they are very susceptible and at risk population for health and safety problems in daily activities, especially to falls. Falls is a major public health problem that occurs worldwide, especially in Asia Pacific. In many cases, the quality of life of elderly was decreased due to fall. In addition of individual factors, the environmental factors also contribute to increased incidence of falls among elderly. This study was descriptive with qualitative approach which conducted in one elderly house in Jakarta to find out the environmental risk factors for falling. It found home layout, lighting levels and floor conditions as the potential risk fall. The house's layout is quite full of appliances and makes it difficult for movement. The lighting levels in both homesteads need to be improved as they range from 7 to 60 lux, it still under Indonesian standard which is 120 – 200 lux for living room and 20 lux for bathroom. Moreover, the floors are still using marble material and the road was slope so it tends to slippery especially when wet.

Association between Frailty and Disability: Relating Two Distinct Entities

Nur Sakinah Ahmad, Noran Naqiah Hairi, Mas Ayu Said, Shahrul Bahyah Kamaruzzaman, Choo Wan Yuen, Farizah Hairi, Sajaratulnisah Othman, Norliana Ismail, Devi Peramalah, Shathanapriya Kandiben, Zainudin Mohd Ali, Sharifah Nor Ahmad, Inayah Abdul Razak, Awang Bulgiba

Julius Centre University of Malaya (JCUM), Department of Social and Preventive Medicine, University of Malaya; Department of Primary Care Medicine, Faculty of Medicine, University of Malaya; Ministry of Health Malaysia; Negeri Sembilan State Health Department.

Demographic transition towards the ageing population is a universal phenomenon experienced by almost all countries in the world. Following this, among the common geriatric syndromes, frailty has been given special attention in view of its profound implication of increasing the risk of adverse outcomes. This was a cross-sectional study aimed to determine the relationship between frailty and outcome on disability among community-dwelling older Malaysians. We defined frailty status using a modified version of the Fried Phenotypes while disability was measured based on Katz Index. From a total of 2324 participants included in our study, 131 (5.64%, 95% CI 4.78 – 6.64) of participants reported having disability in performing Activity Daily Living (ADL). Comparison between frailty status showed ADL disability was significantly higher among frail participants (29.80%) followed by pre-frail (4.42%) and the least among robust group (0.90%). From six ADL sub-items measured in this study, limitation during transferring activity reported the highest (3.77%) followed by incontinence (3.49%), toileting (2.99%), bathing (2.67%), dressing (2.17%) and the lowest limitation observed in eating activity (2.15%). Multivariate logistic regression showed being frail increased the likelihood of developing ADL disability seven times higher compared to those who were non-frail (adjusted OR 7.35, 95% CI 4.34 – 12.44, $p < 0.001$). In conclusion, our study noted that being frail is associated with disability among older adults. With increase in number of older people, it would be beneficial in preventing frailty to maintain the status of their daily living activities

Perspectives on Program Effectiveness in Lifestyle Modification: The case of Belly Gud for Health and Kumainments

Paul Froilan U. Garma

University of the Philippines Manila College of Nursing

Non-communicable, lifestyle-related diseases (NCDs) remain to be a health concern in global health today. NCDs continue to be a national epidemic affecting the health and quality of life of Filipinos. For the past years, the Department of Health (DOH), the lead agency of the government in health, launched several health initiatives in NCDs prevention and control. The approach to program development shifted from disease-specific interventions to a health promotion perspective addressing the underlying risk factors of NCDs. In this discussion, two health promotion programs namely Belly Gud for Health and 10 Kumainments: Sigla at Lakas ng Buhay are presented as program models for evaluating their effectiveness in lifestyle modification. These advocacy programs seek to promote physical activity and healthy diet. Increasing awareness/knowledge or health literacy, enhancing self-efficacy, improving locus of control, using rewards as motivation, intensifying behavioural intention and creating an enabling environment as strategic components are the strengths of these health advocacy programs. Health policy-makers and program developers target both individual (internal) and environmental or organizational (external) factors that shape the values/attitudes, perceptions, intention and actual performance of lifestyle modification. The challenge for health policy-makers lies in stabilizing and maintaining the behaviour change. The interplay of culture, technology, healthcare delivery (i.e., disparities, inequities and marginalization) and political will are gray areas that need to be explored in the light of health strategic formulation and implementation in order to prevent the programs from dying a natural death.

Communication Accommodation: Do nurses and patients speak the same language?

Aditya Karuthan, Sheena Kaur, Krishnakumari Krishnan, Khatijah Lim Abdullah

Faculty of Languages and Linguistic, University Malaya; Academy Bahasa, Universiti Teknologi MARA; Department of Nursing, Faculty of Medicine, University Malaya

Nurses are required to communicate effectively with patients as they are the primary healthcare providers. There is worldwide acknowledgement that health care miscommunication increases stress, anxiety and dissatisfaction to all parties concerned. Communication errors are likely to increase when both the nurses and the patients are communicating in their weaker language (L2), or when even one of the speakers uses a weaker language (L2). This study uses the Communication Accommodation Theory (CAT) developed by Howard Giles (1973) to understand the adjustments made in communication between Malaysian ESL/EFL nurses and foreign L1/L2 English-speaking patients seeking treatment in Malaysia. The main focus of this study is to investigate how Malaysian ESL/EFL nurses and foreign L1/L2 English-speaking patients accommodate their speech when interacting in English. Five ESL/EFL nurses were interviewed and their interaction with the L1/L2 English-speaking foreign patients were observed in a private ENT Specialist Centre in Subang Jaya. The findings indicated that the nurse-patient communication problems arise from linguistics and socio-psychological aspects of the interactions. Both nurses and patients often use approximation strategies to converge in their communication and negotiation behaviour. The findings indicate that among the older L1/L2 patients' interaction with the nurses, the goal was to accomplish convergence in communication for better clarity and comprehension. However, nurses perceived that the younger L1 patients' communicative behaviour as non-accommodative and under accommodative, positing divergence as they tend to mock the limited linguistic competencies of the nurses, hence, maintaining their social identity and power, relating to inequities in the social dynamic of nurse-patient encounter.

Keyword: Communication Accommodation Theory; Health Care; Medical English; Nurse Patient Interaction

CONCURRENT PANEL V

HEALTH SYSTEM & WORKFORCE

TUESDAY, 30 OCTOBER 2018

AKASIA ROOM, IGS

Occupational Health Safety Culture among Cadet Seafarers in the Philippines

Oscar Cristito L Rosete

Philippine Merchant Marine Academy, Philippine College of Occupational Medicine, University of the Philippines Open University

The maritime workplace remained to be one of the world's high risk occupations (Nielsen et al, 2013). Maritime standards and health and safety policies and practices were proven to be inadequate in preventing work related injuries and accidents on board seafaring vessels. It was in this light that safety culture was adopted in the shipping industry. Hence, this study aimed to assess the shipboard safety culture among cadet seafarers in relation to specific seafaring vessel types (tanker or bulk). This study primarily followed a cross-sectional research design. It aimed to assess and compare shipboard safety culture from the cadet seafarers' perspective thru prevalence school based survey using a Likert scale, and qualitative probing thru key informant interviews and a focus group discussion were conducted. The cadet seafarer participants were chosen from the PMMA fourth year students enrolled for the academic year 2015-2016. Survey data gathered were treated with chi square test (critical value of 0.05) while data gathered from key informant interviews and focus group discussion were presented and analyzed by themes. Data gathered revealed differences in the survey scores; however, the bar graph of all the safety factors surveyed revealed a positive similar trend of shipboard safety culture on board in both tanker and bulk vessel types. Computed chi square scores revealed no significant difference between the tanker and bulk shipboard safety cultures in all eight safety factors, although more unsafe work conditions/ acts and on board health injuries/ accidents were reported among bulk respondents.

Impact of Disasters on HealthCare Personnel in Southeast Asia

Umar Ibrahim, Weiam Al- hunaishi

International Institute for Global Health-United Nations University, University Malaya

Background: Interaction with disasters leads to immediate, latent, and later effects on individuals' health physically and mentally. The aim of this review was to assess the impact of disaster on healthcare personnel (HCP), with particular interest to physical and psychological health issues, due to their contact with disaster and its victims during and after the disaster. Methods: This study uses desk-based review of the literature, to investigate disasters' impact on HCP, its causes and solutions. Articles published from 01 January 2003 up to 01 June 2018, were identified and included. Reference lists of included studies were also reviewed for inclusion. Results: The study revealed more intense of psychological impact over the physical impact. Aftermath consequences, such as fear of natural disasters' effect leads to depression, insomnia, posttraumatic stress disorder PTSD, alcoholic abuse and dependence was also revealed. Majority impact on the physical health was as a result of transmitted (communicable) diseases. Conclusion: There should be organized and comprehensive policy; incentives, social programs, and support towards prevention of disaster impact on HCP. Additional, disaster preparedness trainings should be provided to keep the personnel ready and prepare to respond to the disasters, aftermath infections and other physical and psychological effects are recommended.

Key words: Disaster, impact, healthcare, health, psychology

Spatial and individual factors of the model of health service accessibility TB patients in West Java, Indonesia

Martya Rahmaniati M, Tris Eryando

Universitas Indonesia, Universitas Indonesia

Tuberculosis is one of the major health problems in developing countries. The failure of tuberculosis programs has been caused by the lack of access by the public to TB services. The need to improve people's access to quality health services, including increasing access to basic health services. Utilization of health services is increasingly seen as a function of accessibility, unfortunately, health services, such as many public services, are not equally available to everyone. The purpose of this study is to know the parameters that influence the utilization of health services of patients with pulmonary tuberculosis in West Java province based on spatial conditions and individual influences on the accessibility of health services to TB patients. This study used cross sectional design using secondary data from survey conducted by Basic Health Research (RISKESDAS) in 2013, with samples of TB patients aged over 15 years. Data analysis using logistic regression method to get accessible model based on individual, and using spatial analysis with geographically weighted regression to see the spatial parameter to accessibility of TB patient service. The results of this study variables that affect the accessibility of TB patients individually are working (OR= 1,541), as well as the influence of spatial variation on the accessibility of TB patient care. In conclusion, there is an influence of individual characteristics on spatial access to health services of TB patients and by using a spatial approach, the need for utilization of services in a region will be seen clearly by using regional mapping.

Identifying the gaps in policy protecting the health of migrant workers in Malaysia

Tharani Loganathan

University of Malaya

International migration is an inevitable feature of today's globalized world, and is critical for the economic development of many nations. The 2013, 232 million international migrants were estimated worldwide, with 71 million in Asia (United Nations 2013). Malaysia is an upper middle-income country, with a robust economy based on diverse, labour-intensive sectors. Malaysia is a net importer of foreign labour, with migrant workers consisting of 15% of the labour force. According to the Ministry of Home Affairs, there were 2.1 million regular registered foreign workers in Malaysia in 2015. Migrant workers in Malaysia work in manufacturing, construction, plantations and agriculture, and service industries. The right to health is a basic human right. Migrant receiving countries often restrict access to healthcare services to documented migrants, which has adverse implications for both individual and population health. Barriers to accessing health and social services may include the financial costs to migrants and employers, the lack of cultural and language appropriate services, and the fear of deportation. This study evaluates health policy on the access to healthcare by migrant workers in Malaysia through a series of in-depth interviews with civil society agencies, migrant representatives, and government officials. We examine the health-related implementations available for migrant workers and the experience of migrant workers when accessing healthcare in Malaysia. The study findings and recommendations would be beneficial in improving national and regional road maps towards addressing migrant health issues, while contributing to strengthening intersectoral collaboration at a country level.

Comparison of Occupational Physicians Roles between Japan and Taiwan

Rie Ogasawara, Yawen Cheng, Chung-Yen Chen, Hsi-Chen Liu, Junko Otani

Graduate School of Human Sciences, Osaka University, Japan; Institute of Health Policy and Management, College of Public Health, National Taiwan University, Taiwan; Graduate School of Human Sciences, Osaka University, Japan

Introduction: Work-related disease and sudden death caused by heavy and stressful work conditions are major occupational health concerns in Japan, Taiwan and other Asia-Pacific regions. Medical professionals, especially occupational physicians (OPs), will play an important role to promote occupational health. However, OPs definition is quite vague and expected roles may not be the same in each country. Objectives/Method: The aim of this study is to compare and clarify the difference of OPs' definition and expected roles between Japan and Taiwan. Results: Japanese OPs are usually hired by workplaces such as companies and factories, and do not carry their duties in medical settings. They provide consultation services regarding workers' health condition and refer workers to healthcare services for further health examinations when needed, but they do not issue official certificates such as sick-leave and bear less responsibilities in the process of workers' compensation. Whereas in Taiwan, OPs usually work as a clinician in medical settings, provide consultation services and have authority to issue official certificates. They also perform on-site investigation on the request of workers or employers. Conclusion: OPs are playing an important role to promote occupational health both in Japan and Taiwan, but their definitions and expected roles are very different. In our further study, we need to clarify how these differences are influencing on each county's occupational health situation such as workers' compensation. Comparison among the other Asia-Pacific regions including Malaysia, mainland China, Korea and Australia will be also needed to further investigate OPs' roles in different regions.

Global Health Diplomacy Training: Educating Young Health Professionals to be Global Health Leaders

Niken Salindri, Wiku Adisasmito, Fiqhi Rizky, Gita Miranda Warsito

Department of Health Policy and Administration, Faculty of Public Health, Universitas Indonesia; Indonesia One Health University Network (INDOHUN)

Global Health Diplomacy (GHD) is a reflection of the intertwined relationship between health and foreign policy in the global political sphere. Not only by theory, doing GHD needs seasoned diplomacy skills that rarely trained in a formal academic institution. Indonesia One Health University Network (INDOHUN) in collaboration with USAID and One Health Workforce adopts the GHD concept into a five-day intensive training program that combines 40% theory and 60% practice to prepare young health professionals to be reliable future global health diplomats. The first GHD training was held in 2017, in Jakarta, Indonesia. Participated by 30 young health professionals and trained by global health leaders from around the world, this training provides an illustration of multinational collaboration in harmony. The participants underwent a diplomatic, negotiation, and communication skills practice through multi-stage negotiation simulation (MSNS). In reality, MSNS also used to train foreign affair diplomat candidates. In MSNS the participant's simulated diplomatic forum and act as diplomats or State Delegation who need to be critical towards foreign policy, security policy and trade agreements while maintaining relations with other political actors from other parties. This commentary by INDOHUN as GHD training organizer in Indonesia aims to highlight the importance of GHD training and evaluate the first GHD training by discussing the challenges as well as the solutions for these challenges in multidiscipline and multi-sector collaboration, training process, and technical implementation. This article also includes information on the training agenda and plan for the next GHD training to defend global health system stability.

The effects of adversity in the post- migration context on migrant health: The case of Domestic Workers in China.

Brian J. Hall, PhD

University of Macau & the Johns Hopkins Bloomberg School of Public Health

Migrant Domestic Workers in China are a potentially vulnerable population. Key drivers of population health risks for migrants involve cumulative exposures to social determinants of health (e.g., discrimination, decent work) and potentially traumatic life events (e.g., natural disasters, interpersonal violence). These exposures are found across the migration continuum, occurring within pre-, peri-, and post-migration contexts. The current study focused on understanding post migration experiences as key modifiers of the association between cumulative life adversities and posttraumatic stress disorder symptom severity. Respondent driven sampling methods were utilized to enrol 1349 female Filipino and 368 Indonesian domestic workers in the study. The Everyday discrimination scale (EDS), Life Events Checklist (LEC-5), PTSD Checklist (PCL-5) were translated and culturally adapted for use among this population of domestic workers. Results indicated that nearly 20% met criteria for PTSD. The number of lifetime exposures to PTEs ($r = .21$) and greater discrimination ($r = .32$) were associated with higher PTSD symptom severity. Multivariable linear regression analysis showed that discrimination modified the effect of lifetime trauma exposure. Those who reported greater discrimination also reported greater current PTSD symptom severity. These results will be discussed within the growing literature that demonstrates the importance of the receiving country context for migrant mental health.

CONCURRENT PANELS

ORAL PAPER PRESENTATIONS

TUESDAY, 30 OCTOBER 2018

SESSION 2

CONCURRENT PANEL 1

CLIMATE CHANGE & HEALTH

TUESDAY, 30 OCTOBER 2018

SEMINAR ROOM, RMIC

Identifying barriers towards an initiative to promote healthy and sustainable consumption, utilization and recycling of palm oil in Myanmar, Malaysia, and the Philippines: A Model for Educational Intervention and Assessment in Southeast Asia

Thaint Naing, MD, MBBS, Ms.GM, Frances Larson, MD, Roger Clemens, DrPH, FIFT, CFS, FASN, FACN, CNS, FIAFST, Tin Naing, MBBS, DTM&H (Mahidol), Khynn Than Win, MBBS, MPH(Philippines), Lauren Nguyen, Ms.GM

University of Southern California; Petronas Carigali Oil and Gas Company; Myanmar Medical Association.

Background: Palm oil is widely used as an edible vegetable oil in Southeast Asia. In Myanmar, palm oil is the second most important food item. Malaysia is one of the largest producers of palm oil globally whereas the Philippines has the future potential to be the significant producer. The use of palm oil is controversial due to its saturated fat content, processing contaminants (chloropropanols) and agricultural sustainability issues. It has recently been used as an energy-efficient source of bio- fuel. Objective and Methodology: Multidisciplinary professionals from the University of Southern California; a Pharmacy professor as well as a food scientist with publications on edible palm oil contamination, a general pediatrician specializing in global nutrition, and a Burmese medical doctor in the Master of Science in Global Medicine program will implement the following pilot project plans. Develop and validate a survey tool to assess knowledge of professionals and consumers before and after education on the nutritional and health concerns of palm oil use, recycling of used palm oil into biofuels and sustainable agricultural practices. Develop and provide an educational brochure addressing these topics to a sample of 30 participants including healthcare professionals, public health specialists, industrial professionals, community members and consumers in each country. Statistically analyze and compare survey results. Use survey results to design subsequent educational interventions and public policy surrounding the use of palm oil in Southeast Asia. Summary: Survey data, discussion, and conclusions will be provided along with implications for educational interventions and public policy at the time of presentation.

Effect of Green Infrastructure on human health and natural disaster adaptation

Ai Tashiro, Yuta Uchiyama, Ryo Kohsaka

Tohoku University

Natural disasters impact human health. How well people and their community adapt to natural disasters is a crucial issue. Especially, people in coastal counties including Japan, where historically prone to be the natural disaster, face vulnerability of human health risk. However, in such vulnerable rural areas in Japan, little strategies are linked with human and natural health hazards. To suggest adaptable strategies for mitigating disaster impact and human health hazards, this study focuses on the effect of green infrastructure (GI) on human health in vulnerable rural areas in the northeast of Japan. This study aims to investigate how green infrastructure plays a vital role in preparedness for and recovery from natural disaster. Indeed, the social dimension holds an essential aspect of GI planning considering impacts by green spaces on human well-being. Past studies suggest GI mitigates climate change and support human health. This study introduces rural towns devastated by the great east Japan earthquakes and tsunami (GEJET) in 2011. These towns started to improve human health with GI in the post- disaster reconstruction. This study suggests, by incorporating GI into post-disaster recovery, how local communities could adopt human health hazards and become more resilient to future disasters. We found ecosystem service of GI worked effectively for subjective health status; the index of the subjective health status of residents living in more green spaces marked higher than in lower ones. Incorporating the ecosystem service evaluation of GI on human health will priority for disaster resilience in the post-disaster reconstruction.

People's Knowledge and Practice Regarding Household Hazardous Waste (HHW) in Asian Countries

Agni Amurbatami Manggali, Dewi Susanna

Universitas Indonesia, Universitas Indonesia

Asia is the most populous region, which is the home of over the half of the world's population with huge disparities in socioeconomic indicators such as the income level. The population size is in line with the amount of waste as the side product of people's activities; the waste may include Household Hazardous Waste (HHW). HHW is often overlooked compared to industrial hazardous waste due to the relatively low generation rate and the complexity of management and monitoring. Many Asian countries have no regulation on HHW, whereas, without proper management, HHW can harm both the environment and human health due to its hazardous nature. This study aims to explore Asian people's knowledge about HHW and their treatment of it based on the country's income level. Eleven peer-reviewed articles published in between 2008-2018 from various scientific databases are reviewed. This study discovered that a low level of knowledge regarding HHW is found mostly in less rich countries. Nevertheless, even though high and upper-middle income groups have a better knowledge of HHW, many people do not follow the recommended safe disposal practices. In conclusion, despite its potential risks, HHW issue is still not considered a priority in many Asian countries. Also, good knowledge of HHW does not guarantee good HHW disposal practice.

Haze and health impacts in ASEAN countries: A Review Study

Nasrin Aghamohammadi, Logaraj Ramakreshnan, Fong Chng Saun, Nik Meriam Sulaiman, Awang Bulgiba, Rafdzah Ahmad Zaki, Wong Li Ping

Department of Social and Preventive Medicine, Faculty of Medicine, University of Malaya; Department of Chemical Engineering, Faculty of Engineering, University of Malaya, 50603 Kuala Lumpur, Malaysia, Department of Social and Preventive Medicine, Faculty of Medicine, University of Malaya

Transboundary haze episodes and the associated health impacts have become a regular crisis among the ASEAN countries. This study aimed to critically highlight the evidence of physical and psychological health impacts of haze from the available literature in ASEAN countries. Systematic literature survey from six electronic databases was performed, and 20 peer-reviewed studies out of 384 retrieved articles were selected for this review. The results indicated that no generalization can be made on the reported physical symptoms as no specific symptoms recorded in all the reviewed studies except for throat discomfort. Consistent evidence was found for the increase in respiratory morbidity, especially for asthma, whilst the children and the elderly are deemed to be the vulnerable groups of the haze-induced respiratory ailments. A consensual conclusion on the association between the cardiovascular morbidity and haze is unfeasible as the available studies are scanty and geographically limited. A number of modelling and simulation studies demonstrated elevating respiratory mortality rates due to seasonal haze exposures over the years. Besides, evidence on cancer risk is inconsistent where industrial and vehicular emissions are also expected to play more notable roles than mere haze exposure. There are insufficient regional studies to examine the association between the mental health and haze. Therefore, the lack of consistent evidence among the reported haze-induced health effects as highlighted in this review calls for more intensive longitudinal and toxicological studies with greater statistical power to disseminate more reliable and congruent findings to empower the institutional health planning among the ASEAN countries.

Effect of Household Indoor Air Pollution on Health: Evidence from National Level Large Scale Cross- Sectional Survey in India

Samarul Islam

International Institute for Population Sciences

Access to clean cooking fuel has accorded high priority in national and international development agenda (Goal SDG 3 and 7). Only 24% of India's rural population had access to clean cooking fuel despite government three decades of effort. The objectives of this paper are to assess trends, progress and rural-urban differentials in accessibility, to understand the cluster and spatial pattern (socio-spatial) of household air pollution and its linkage with health. Data from fourth round of National Family Health Survey is used. Multivariate analyses used and regions, province and district are the units of analysis. This study tries to explore the existing spatial inequality across the nation. The study reveals large disparity across the administrative division in both access to clean cooking fuel and health, mostly affected groups are women and children and there is strong relationship between household indoor environment and health outcomes of the population. Quality of household indoor environment and accessibility to clean cooking fuel in Indians states is far from satisfactory. Household deprived of clean cooking fuel which reflects their vulnerability to poor health. There is an urgent need to pace up development efforts to meet timely goals of SDGs, special focus needed in the backward regions.

The health impact of climate change in cities of middle income countries: A review of current knowledge and research gaps in China

Janice Y Ho, Emily YY Chan, Heidi HY Hung, Sida Liu

School of Public Health and Primary Care, The Chinese University of Hong Kong, Hong Kong, China; Collaborating Centre for Oxford University and CUHK for Disaster and Medical Humanitarian Response (CCOUC), The Chinese University of Hong Kong, Hong Kong, China; School of Public Health and Primary Care, The Chinese University of Hong Kong, Hong Kong, China,

Introduction: Climate change poses enormous threats to human health. This review examines available research findings of four major climate change and health consequences, namely extreme temperature, altered rainfall pattern, rise of sea level, and extreme weather events in China, a middle-income population with a wide range of climate-related geographical contexts. Methods: A bilingual literature review was used to identify peer-reviewed articles published between 2000 to 2018 in PubMed, Google Scholar and China Academic Journals Full-text Database. Results & Discussion: A total of 194 papers were included in the final analysis. Research on the relationship between climate change and health that focused on the impact of temperature on mortality or non-communicable disease outcomes were identified. Cardiovascular and respiratory diseases were found to have the strongest temperature- mortality and morbidity risks. Rainfall related studies predominantly focus on impact of infectious and vector-borne diseases but lacked consistent associations. Relationships between temperature and communicable diseases as well as rainfall and non-communicable diseases were largely unknown. No study on associated health outcomes of sea-level rise was identified. Most studies examined single weather variables but long-term variation and trends on health remain uncertain. Climate change impact on injury patterns, mental health outcomes, and allergies are currently under-researched. Evidence is urgently needed to understand health impact on vulnerable populations living in growing urbanised cities and urban enclaves. Clinical management plans and health impact mitigation strategies (e.g. co- benefits, health promotion, acclimatisation, adaptation, public warning) for at-risk populations in both medical service planning and enhancement of self-care are urgently needed.

CONCURRENT PANEL II

MALNUTRITION

TUESDAY, 30 OCTOBER 2018

SEMINAR ROOM 2, RMIC

Assessing the economic costs of unhealthy diets and low physical activity: An evidence review and proposed framework

Christine Joy Domingo Candari

University of the Philippines

Unhealthy diets and low physical activity contribute to many chronic diseases and disability, being responsible for some 2 in 5 deaths worldwide and about 30% of the global disease burden. Surprisingly, little is known about their economic costs. Our study pulls together evidence about the economic burden of unhealthy diets and low physical activity and explores:

- How definitions vary and why this matters;
- The complexity of estimating the economic burden; and
- How we can better estimate the costs of the two risk factors, using diabetes as an example.

The review finds that unhealthy diets and low physical activity predict higher health care expenditure, but estimates vary greatly. Existing studies underestimate the true economic burden because most only look at the costs to the health system. Indirect costs caused by lost productivity may be twice as high as direct health care costs, together accounting for about 0.5% of national income. The study also tests the feasibility of using a disease-based approach to estimate the costs of the two risk factors in Europe, projecting the total economic burden as manifested in new type 2 diabetes cases at €883 million in 2020 for France, Germany, Italy, Spain and the United Kingdom alone. 'True' costs will be higher, as unhealthy diets and low physical activity are linked to many more diseases. Our findings help to better understand the economic burden associated with two key risk factors for ill health. They can help policymakers settle priorities and more effectively promote healthy diets and physical activity.

Factors of Anaemia in Adolescent Girls in Depok, West Java at 2017

Sintha Fransiske S, Mrs.

Anaemia caused by iron nutrition is one of the four main issues of public health. Anaemia in young women especially can lower learning achievements (Yuliana, 2016). Based on household health survey (SKRT) in 2005, shows the prevalence of anaemia in young women aged 10-14 years were of 57.1%. This research is observational analytic with Cross sectional design. Based on the survey results in anaemia city of Depok 2007 year on anaemic young women obtained 47.94%. According to a study in the city of Depok gained 35.7% of young women suffer from anaemia (Siahaan, 2012). Anaemia of young women 41% and 59% anaemia not in high school Depok year 2017. The intake of iron (Fe) a good of 79.5% and less of 20.5% in high school Depok year 2017. A good protein intake of 61.5% and less of 38.5% in high school Depok year 2017. A good knowledge of anaemia of 84,3% and less of 15,7% in high school Depok year 2017 Knowledge of iron supplementation is a good of 84,3% and less of 15,7% in high school Depok 2017.

DISORDERED EATING AMONG URBAN & RURAL SECONDARY SCHOOL STUDENTS IN SELANGOR, MALAYSIA

Karen Sharmini A/P Sandanasamy, Mas Ayu Said, Karuthan Chinna

Ministry of Health Malaysia; Department of Social and Preventive Medicine, Faculty of Medicine, University of Malaya, Malaysia; School of Medicine, Faculty of Health and Medical Sciences, Taylor's University, Malaysia

Background: Disordered eating would be debilitating if it reaches the clinical diagnostic criteria of an eating disorder (i.e. anorexia nervosa and bulimia nervosa). Aim: This study is to assess the prevalence and factors associated with disordered eating behaviours among urban and rural secondary school students in Selangor, Malaysia. Methods: a cross-sectional study was conducted with multistage sampling of urban and rural schools in Selangor, providing a sample of 601 student's ages between 13 to 16 years. A self-administered questionnaire measuring eating attitudes and behaviours and the predictors of disordered eating which was self-esteem, body dissatisfaction and perceived sociocultural pressures (PSP) were assessed. Results: the prevalence of disordered eating was 19.8% (95% CI 16.5, 23.5). More females 20.8% (95% CI 16.6, 25.8) and adolescents who were overweight 26.5% (95 % CI 18.3, 36.7) had disordered eating. Disordered eating was mainly seen among rural schools 25.6% as compared to urban schools 15.2%. The common type of disordered eating practices were binge eating 4.10% (95% CI 2.70, 6.00), and excessive exercising, 6.50 % (95% CI 4.70, 9.00). Perceived sociocultural pressure to be thin was significant predictor of disordered eating (OR=4.23 95% CI: 2.89, 6.19). Conclusion: This study provides support for the importance in targeting adolescent in prevention programs for disordered eating. Public Health Prevention Programs should take into consideration the full range of disordered eating practices, including binge eating, excessive dieting, consumption of diet pills/laxatives/diuretics as well as excessive exercising as an integrated approach to address the importance of healthy eating among adolescent.

Early Detection Training Stunting in Children with Nutrient Status Calculation Method in Gunungtiga village, Tanggamus, Lampung

Fitria Saftarina

Faculty of Medicine Lampung University

Stunting is a delineation of the chronic underweight status of growth and development from early life. Stunting events can be caused by several factors such as the characteristics of the family and toddlers and the intake of nutrients that are less accompanied by the occurrence of infectious diseases in children. According to riskesdas (2013), Lampung Province is above the national average of 42.64% for very short and short toddlers. This means that the respondents who have children get 42.64% children very short or short. One of the areas in Lampung with a high stunting rate is Tanggamus of 39.66%. Prevention of Stunting in Toddlers should be done since pregnancy or with early stunting case detection training with nutrition status calculation method to health personnel as the spearhead of health service in community. This activity aims to increase the knowledge of health personnel regarding the prevention and early detection of stunting cases in children using the method of calculating nutritional status in Gunungtiga village. The method used in this activity is health counseling followed by a discussion whose results were evaluated using pre-test and post- test instruments and tested using paired t test. The paired t-test results show that this understanding improvement is statistically significant (p value $<0,000$). Conclusions, extension activities and training conducted to improve the knowledge of health personnel on the prevention and early detection of stunting cases using nutrient status calculation method in Gunungtiga village, Lampung.

Maternal Perspectives on Probiotics and Intake of Probiotic Food among Children in Selected Urban Communities in Laguna, Philippines

Cherry Ann Garcia

University of the Philippines - Manila

This study is a cross-sectional, analytic study on 680 mothers and 680 children recruited in selected urban communities in Laguna, Philippines, which aimed to provide information on actual intake of commercially-available probiotic food of children. A survey questionnaire was used to gather information on mother's attitude, perceived behavioural control and intention of giving probiotics to her child. A semi-quantitative food frequency questionnaire was designed to measure amount of daily intake of probiotic food. Most mothers (92%, n=625) had highly positive attitude to probiotics. Composite scores were computed for questions on maternal attitude to probiotics, perceived behavioural control, and intention of giving probiotics to children. Path analysis was run to check for association and the resulting path showed significant association between attitude and intention, attitude and intake, behavioural control and intake, behavioural control and intention, and intention and intake of probiotic food. Female children (42.43%) have higher intake than males (30.61%). High intake was also noted among children of mothers with educational attainment of Vocational (45.45%) and College and higher (41.09%); among low- (38.92%) and middle- income families (44.06%); and among those without family history of AD (38.55%). As for the frequency of consumption of probiotic food, 3 out of 10 respondents reported daily intake of at least one bottle of the probiotic foods enumerated. Mother's attitude, perceived control and intention are positively associated with higher total intake among children. The intake of probiotics among children in the sample population was high.

Association of Dietary Diversity Score with Anemia Status among Non-pregnant Women in Brgy 145, Sto. Niño, Pasay City

Marie Camilla G. Garganta, Kyle Daniel D. Diamse, Jedmar M. Cueto, Florence Ivy T. Se, Julius Nico S. Valdez, Ernani R. Bullecer

University of the Philippines Manila

Iron deficiency anemia is a disease of public health significance which leads to negative economic and health implications. Dietary diversification is an emerging strategy to which micronutrient deficiencies, such as iron deficiency anemia, may be addressed. Dietary diversity may be measured through dietary diversity score (DDS) which measures the number of food groups an individual consumes over a given time period. The study aimed to determine whether DDS is associated with anemia status among non-pregnant women in Barangay 145, Pasay City, an urban poor community located in Manila, Philippines. Specifically, the study aimed to determine prevalence of anemia, mean DDS, and strength and direction of association between DDS and anemia status. The study was a cross-sectional study which included 122 non-pregnant selected using stratified random sampling with proportional allocation. Data collection were collected using interviewer-administered questionnaire and dietary diversity questionnaire. Registered medical technologists determined hemoglobin utilizing the HemoCue Hb 201+ System. Anthropometric assessment included the measurement of height and weight and computation of Body Mass Index. Lastly, 24-hour food recall was performed to assess the diet from which dietary diversity were computed and categorized into quartiles. In conclusion, results of the study found that the prevalence of anemia was 21.49%, mean DDS was 4.46 (between low and moderate DDS) among non-pregnant women of reproductive age, and a statistical association was found between DDS and anemia status ($p < 0.001$) such that the odds of having anemia was 25.47 times higher among women with low DDS compared to women with moderate/high DDS.

CONCURRENT PANEL III

NON-COMMUNICABLE DISEASES

TUESDAY, 30 OCTOBER 2018

CUBE ROOM 1, IGS

Economic evaluation of varenicline to reduce smoking and COPD burden in the Philippines

Dante Jr Salvador

Alliance for Improving Health Outcomes, Inc.

Background. The burden of smoking and related diseases such as chronic obstructive pulmonary disease (COPD) is significant worldwide. Varenicline has been shown to be clinically- and cost-effective in reducing smoking and is reimbursed in many countries. In the Philippines, varenicline is cost-prohibitive and not reimbursed. This study evaluated cost-effectiveness of varenicline in reducing smoking and COPD in the Philippines. Methodology. A Markov model was developed to forecast cost and outcome estimates of alternative interventions: brief counselling vs. varenicline plus brief counselling. COPD is the sole disease incorporated. Direct medical costs, outcomes, and transition probabilities were obtained from existing literature, and data were processed using various functions in Microsoft Excel. Costs were standardized at 2015 values. Incremental cost-effectiveness and cost-utility ratios were calculated. Cost and outcomes were discounted at 4% in base case scenario. Sensitivity analyses were also performed by changing four parameters: cost of varenicline treatment, cost of COPD treatment, efficacy rate of varenicline, and discount rates. Results. Varenicline plus brief counselling results in more cases and deaths averted and more cost-effective 20 years after the start of the intervention. After each succeeding year, the cost-effectiveness ratio is increased. The cost-utility ratio is most sensitive to changes in discounting. Conclusion. This study reflects findings of other countries on the cost-effectiveness of varenicline in reducing smoking and diseases such as COPD; saving lives and gaining quality adjusted life years. Philippine government should consider reimbursement of varenicline especially for the poor, who are among the most to benefit from this intervention.

Medication Adherence among Diagnosed Hypertensive Patients aged 25-59 years old in a selected Barangay in Manila

Abantao, Danielle Marie S., Bataga, Kim Angelie V., De Ocampo, Gabrielle Anne G., Domingo, Josiah Keith F., Lazaro, Carlos Joshua A., Mamangon, Martin Aaron M., Tolabing, Ma. CarmenC.

University of the Philippines Manila

Background: Medication nonadherence is one of the major causes of treatment failure especially in chronic diseases such as hypertension. Previous studies in other countries have determined certain factors associated with medication adherence but little is known about this subject matter in the local setting. Methods: A cross-sectional study design was employed. The study population consisted of hypertensive patients registered under J. Vicencio Health Center located in Barangay 898, Santa Ana. Non-probability sampling method was employed to recruit study participants. A house-to-house structured interview was administered utilizing the following data collection instruments: Medication Adherence Questionnaire (MAQ), Brief Illness Perception Questionnaire (BIPQ), Patient-Doctor Relationship Questionnaire (PDRQ-9), and Short-Form Health Literacy Questionnaire (HL-SF12). Medication adherence behavior was assessed using MAQ. A total score of 0-1 was defined as adherent while 2 or above was considered as nonadherent. Results: A total of 47 hypertensives participated in the study, 51.06% of whom were nonadherent. Comorbidity (PR:1.15, 95% CI: 0.66-2.01), illness perception (PR:1.61, 95% CI: 0.50-5.17), patient-doctor relationship (PR:1.6, 95% CI: 0.96-2.75), and health literacy (PR:1.96, 95% CI: 0.90-4.27) were associated with medication adherence behavior, however, the associations were not statistically significant. Conclusion: Majority (51.06%) of the hypertensives were nonadherent to antihypertensive medication. Associations were found between each selected patient-related factor and medication adherence behavior; however, these were not statistically significant.

mHealth in Ministry of Health: Reach and Use of KOSPEN@Activ

Khairul Hafidz Alkhair bin Khairul Amin, Feisul Idzwan Mustapha, Doctor

A majority of Malaysians (88%) now used smart phones, making it possible for mobile health applications to reach large numbers of population. There are studies that show positive effects for mobile health intervention with potential public health impact.

[KOSPEN@Activ](#) is an initiative between Ministry of Health (MOH) and BookDoc Activ using an application to detect individual's physical activity through measuring their total number of steps to promote an active lifestyle, which started in March 2018. Through gamification, participants are rewarded according to their current tier of Bronze, Silver, Gold and Platinum. The objective of this cross sectional study is to examine the reach and use of [KOSPEN@Activ](#) among MOH staff based on data extracted from the BookDoc Activ database. As of May 2018, 87,537 (35.1%) of MOH staff had activated the [KOSPEN@Activ](#) on their mobile devices. The highest three states were Terengganu (72.3%), Pulau Pinang (65.0%) and WP Labuan (57.9%). At MOH Headquarters, the three highest Divisions were Dental (97.0%), Nursing (96.0%) and Training (96.0%). Of the total participants, 38.0% have not synced their application, 38.3% were assigned "No Tier", 19.3% Bronze tier, 3.8% Silver tier, 0.5% Gold tier and 0.1% Platinum tier. Although [KOSPEN@Activ](#) is heavily promoted via a top-down directive, the majority of MOH staff have not activated their [KOSPEN@Activ](#) activation code. Of these, many have not synced their application properly. These issues need to be examined further to identify the root causes to enable solutions to increase the number of participants.

Prevalence of Metabolic Syndrome among Breast Cancer Survivors in East Coast of Peninsular Malaysia

Syed M Amirfaiz Syed Ali, Mohd Razif, Shahril, Lua Pei Lin

Universiti Sultan Zainal Abidin

Introduction: Previous studies have reported the association between breast cancer and metabolic syndrome (MetS). However, limited data are available on MetS prevalence among breast cancer survivors in Malaysia. This study was conducted to determine the prevalence of MetS and the associated metabolic parameters among breast cancer survivors in East Coast of Peninsular Malaysia. Methodology: This cross-sectional study included 95 breast cancer survivors (age 53.7 ± 7.6 years) who have completed main cancer treatments for ≥ 6 months. Cancer survivors were recruited from two main referral hospitals in Kelantan and Terengganu by using convenience sampling method. Those who were pregnant, or had secondary, recurrent or stage four breast cancer were excluded from the study. MetS was diagnosed by using the Harmonized criteria. Results: MetS prevalence among the cancer survivors is 50.5%. Between cancer survivors groups with and without MetS, significant differences were observed in weight, BMI, waist circumference and body fat percentage. Among those with MetS, the most prevalent metabolic parameters were high triglycerides (91.2%), high fasting plasma glucose (79.6%) and low HDL cholesterol level (78.4%). Significant difference was also found between MetS and cancer stages. Otherwise, no significant difference was reported in other socio- demographic and clinical parameters between groups with and without MetS. Conclusion: The prevalence of MetS among the breast cancer survivors was high, and was significantly associated with weight, BMI, waist circumference, body fat percentage and cancer stages. The association between MetS and other lifestyle factors like physical activity level and dietary intake should be further investigated

Tobacco expenditures and its implications for household resource allocation in Malaysia

Tan Wei Leong, Ng Chiu Wan, Nirmala Bhoo Pathy

Introduction: Tobacco epidemic has always been a public health threat in Malaysia. Apart from its negative health impacts, tobacco smoking also affects the general well-being of a household. This study examined the crowding out effect due to tobacco smoking in all households at national level, the crowding out effect across total household consumption quintiles and lastly the crowding out effect among the tobacco smoking household as tobacco expenditure increases. Method: The cross-sectional study utilized the most recent available and nationally representative data from Household Expenditure Survey (HES) in 2014/15 by Malaysian Department of Statistics. We used a seemingly unrelated regression method to assess the crowding out effect in essential goods and services by tobacco expenditure based on consumer demand model, Quadratic Almost Ideal Demand System (QUAIDS). The total household consumption was used to represent the household living standard. Results: Tobacco smoking is found to significantly crowd out food, housing, education, medical care, clothing and transportation at national level between tobacco smoking and non-tobacco smoking households. Stratified by their living standards, crowding out effects were persistently significant in food, education and housing across the ascending living standards. Subpopulation analysis among tobacco smoking households revealed that crowding out effect was significant in food, medical care, housing, transportation and recreation when comparing the households with high tobacco expenditure against those with a lower tobacco expenditure. Conclusion: In short, household tobacco expenditure will have significant crowding out effect on food, housing, education, medical care, clothing and transportation. Moreover, the crowding out effect was observed irrespective of their living standards. Lastly, there is dose-response relationship between crowding out effects and tobacco expenditures at household level.

CONCURRENT PANEL IV

MENTAL HEALTH ISSUES

TUESDAY, 30 OCTOBER 2018

CUBE ROOM 2, IGS

Psycho-Socio-Behavioral Correlates of Healthcare Seeking Intention If Diagnosed with HIV among Young MSM in Taiwan: An Exploration Stratified by Sexual Sensation Seeking

Jiun-Hau Huang, Min-Jung Li

National Taiwan University College of Public Health

Background. In Taiwan, the number of HIV cases reached over 30,000 in 2016, and young MSM have been disproportionately affected by HIV/AIDS. According to the UNAIDS 90-90-90 target, 81% of people living with HIV (PLWH) should receive sustained antiretroviral therapy. However, a large body of literature has examined treatment adherence rather than the initial healthcare seeking intention if diagnosed with HIV (HIV HSI). **Methods.** To further explore the psycho-socio-behavioural characteristics associated with HIV HSI among YMSM in Taiwan, an anonymous online survey was conducted from December 2016 to February 2017. After excluding those self-identified PLWH, 2,709 responses from YMSM ages 15–39 were included for analysis. **Results.** Multivariate logistic regression found the significant correlates and strengths of associations with HIV HIS varied by level of Sexual Sensation Seeking (SSS). Low-SSS YMSM had higher HIV HSI if they had HIV voluntary counselling and testing experience (AOR=1.51). Medium-SSS YMSM had higher HIV HSI if having the following characteristics: having an undergraduate degree (AOR=2.27), having 1–3 (AOR=2.40) and 4–6 (AOR=2.17) close friends, always using condoms with casual sex partners (AOR=1.64), and using substances during sex (AOR=1.70). High-SSS YMSM had higher HIV HSI if having 1–3 close friends (AOR=2.93) and having 1–5 casual sex partners (AOR=2.11). However, high-SSS YMSM who were ever-smokers had lower HIV HSI (AOR=0.64). Also, regardless of their SSS level, YMSM perceiving higher risk of HIV infection had lower HIV HSI (AOR=0.32–0.69). **Conclusions.** The findings of this study can inform future HIV/AIDS prevention efforts to increase HIV HIS among YMSM tailored according to their SSS level.

Health Literacy and mental health status among Malaysian Youth: A study of the first year undergraduate students of a public University

*Tin Tin Su, Sanjay Rampal, Nik Daliana Nik Farid, Li Ping Wong, Maznah Dahlui
University of Malaya*

The World Health Organisation defined health literacy as "the cognitive and social skills which determine the motivation and ability of individuals to gain access to understand and use information in ways which promote and maintain good health". It is noticeable that the relationship between the health literacy and mental health has not been given adequate attention in the literature. Therefore, this study aimed at exploring the relationship between health literacy and mental health with focus on youth particularly those in the public university. A cross-sectional survey was conducted at University of Malaya in the year 2016. The participants were the first year undergraduate students. The validated Malay versions of health literacy questionnaire (HLS-EUQ12) and Depression Anxiety and Stress Scale (DASS-21) questionnaire were used to assess the health literacy and mental health status respectively. A total of 2,666 participants were analysed. Study participants were 814 males and 1852 females aged 18 to 26 years. The results revealed that majority (66%) of the participants had limited health literacy while 34% were categorised as having sufficient health literacy level. The mean health literacy index was 32 (SD = 6.8). The range of health literacy score was 0 to 50. Participants with limited health literacy level were more likely to exhibit severe depression (OR = 2.45), severe anxiety (OR = 1.87) and severe stress (OR = 1.85) than participants with sufficient health literacy. Improving health literacy has a promising potential to prevent mental health problems among Malaysian youth.

ASSOCIATION OF KNOWLEDGE OF DEPRESSION, HELP SEEKING, STIGMATIZING ATTITUDES WITH DEPRESSION SYMPTOMS AMONG ADOLESCENT

Sarbhan Singh, Rafdzah Ahmad Zaki, Nik Daliana Nik Farid

Department of Social and Preventive Medicine, Faculty of Medicine, University of Malaya; Julius Centre University of Malaya, Department of Social and Preventive Medicine, Faculty of Medicine, University of Malaya; Centre of Population Health, Department of Social and Preventive Medicine, Faculty of Medicine, University of Malaya

Background: Mental Health Literacy (MHL) is defined as knowledge of mental disorder, help seeking and stigmatizing attitudes. This study aims to investigate the association between MHL and the mental health status, particularly depression, among adolescents. Methods: 1815 adolescents aged 12 to 14 years were recruited from 50 secondary schools in Selangor. MHL and Stigma questionnaire depicting a depressed vignette and Malay version Centre of Epidemiological Scale for depression (CESD) was used to assess MHL and depression in a cross-sectional study. Data were analysed using multivariate logistic regression. Results: A minority of respondents had adequate MHL 51 (3.0%) and only 60 (3.5%) of respondents were able to correctly recognize depression. Majority of participants had intention to seek help 1365 (80%) from more informal sources of help. Multivariate analysis showed keeping the person busy (OR=1.773; 95% CI 1.195, 2.632), not getting out into sunlight (OR= 1.959 ; 95%CI 1.113, 3.448), not telling anyone if having a problem (OR=3.756 ; 95%CI 2.515, 5.609), not endorsing family as a source of help (OR = 2.843; 95%CI 1.504,5.376), worried what others might think if help is sought (OR = 1.925; 95%CI1.229,3.013), feeling nothing can help (OR = 1.719 ; 95%CI 1.127,2.623) and embarrassed to seek help (OR = 1.531 ; 95%CI 1.020,2.299) were significantly associated with depression. Conclusion: Results suggested that adolescents have relative poor understanding about MHL regarding depression and MHL was associated with depression. Recommendations were made to school based mental health programs in Malaysia.

MOBILE PHONE USE AND SELF REPORTED HEADACHE AMONG WORKING ADULTS IN SURABAYA INDONESIA

Stephanie Julia Kosasih, Eugenie Tan Sin Sing, Tan Chung Keat

DKT Gubeng Army Hospital, Surabaya, Indonesia; School of Healthy Aging, Medical Aesthetic and Regenerative Medicine, Faculty of Medicine and Health Sciences, UCSI University, 56000 Cheras, Kuala Lumpur, Malaysia

Global usage of mobile phones in the past decade posed major influences on well-being of its users. Headache is a non-specific symptom due to radio-frequency-electromagnetic field exposure (RF-EMF) or heat sensations from mobile phones. Incidences of headache can be crippling on ones' quality of life, reducing their quality of sleep and inflicting stress. As such, this study aims to determine pattern of mobile phone use and its association with incidences of headache. This is a cross-sectional, questionnaire based study involving 264 young working adults whose age are 18 to 40 years old. Questionnaire consisted of socio-demographic (12 items), pattern of mobile phone use (8 items) and validated Headache Impact Test (HIT) (6 items). HIT scores ranged from 36 to 87; and were categorized as little or no impact (<49), some impact (50-55), substantial impact (56-59) and very severe impact (>60). Most respondents reported to have headache (75.5%); of which 38% had some impact, 10% substantial impact and 26% very severe impact. Incidences of headache were highly associated ($p<0.001$) with age, gender, marital status, education level, personal income and household income of mobile phone users. Moreover, selected pattern of mobile phone use such as duration of ownership, calling, texting, browsing was significantly associated ($p<0.001$) with HIT. Nearly half of those co-sleeping with mobile phones (44.7%) reported severe headache ($p<0.001$). Taking pictures and gaming were not associated with HIT score ($p>0.05$). As a conclusion, healthy mobile phone habits and electromagnetic radiation preventive guidelines are essential to safeguard ones' well-being and health.

A STUDY PROTOCOL ON EXPECTATION OF HEALTH CARE PROVISION, SOCIAL SUPPORT AND SEXUAL AND REPRODUCTIVE HEALTH EDUCATION: A QUALITATIVE STUDY AMONG UNMARRIED PREGNANT ADOLESCENT IN MALAYSIA

Elya Zetti Binti Hamdi, Primary investigator, Wong Li Ping¹, Nik Daliana Nik Farid¹

Department of Social and Preventive Medicine, University of Malaya

Adolescent pregnancy is a phenomenon with numerous public health and medical consequences. Globally, one in five girls has experience childbirth by the age of 18. WHO reported, approximately 16 million girls aged 15 to 19 years give birth every year, and about 2 million of them are under the age of 15 years. Malaysia is experiencing increasing numbers of teenage pregnancy in these recent years. This study will attempt to explore the expectations of the unmarried pregnant adolescents in Malaysia about health care provision, social support and sexual and reproductive health education. A qualitative study design, based on a phenomenology theory framework will be used to gain an in-depth understanding of the lived experience and expectations of these unmarried pregnant adolescents. It will involve a population of pregnant adolescents aged 10 to 19 years from several social welfare institutions and among those attending the antenatal clinic at klinik kesihatan in the state of Perak. Approximately 10 to 15 focus group discussions will be conducted for this study with 5 to 6 participants for each discussion. Therefore, the estimated number of participants is 50 to 75 participants. This study is important to understand the expectations of this marginalized group and thus provide support to these young mothers in term of health care provision and social support and also to explore acceptable ways for sexual and reproductive health education delivery in school.

PRAXIS OF MENTAL HEALTH GAP ACTION PROGRAMME (mhGAP) INTERVENTION GUIDE (IG) AND ITS IMPACT TO THE ROLES OF COMMUNITY HEALTH NURSES IN UPLAND AREAS OF BATAAN, PHILIPPINES

RONNELL D DELA ROSA , Dr

Despite the strict implementation of the National Mental Health Program 2017 of the Philippines, mental, neurological and substance use (MNS) disorders are still considered highly prevalent. Now that the Mental Health Law has been enacted in the country, nurses in the community are becoming noxious to their roles and duties, making these more accessible and convenient to the delivery of mental healthcare services to their stakeholders. The World Health Organization (WHO) launched its Mental Health Gap Action Programme (mhGAP) in 2008, and the associated intervention guide (mhGAP-IG) in 2010. Hence, not all nurses in the Philippines are aware of these intervention guide. Nurses found out that the usage of this intervention guide had empowered them to strengthen their roles and duties in mental health delivering accessible services to their clientele. This IG had given also opportunities for the residents in upland areas imbining them to have awareness on various diseases, psychological first aid, and do's and don'ts of psychiatric-related medication administrations. With this, it gives the nurses a boost on their professional pride and for the residents a security on mental health dimension. It is strongly suggested that the integration of mhGAP in the practice of community health nurses and other healthcare workers should become more evident. A formal training on the utilization of the mhGAP intervention guide has been proposed.

What does family and work status mean for our health? A China-based case study on depression symptoms of married workers.

Dan Chen

Chinese University of Hong Kong

According to the perspective of social relationship and health, social relationships generated in family and work place provide beneficial effect on health. However, this perspective neglects the potential detrimental interaction effect between marriage and employment as illustrated in work-to-home conflict approach. Work-to-home conflict is hypothesized to arouse stress resulting from time and energy competition between family and work demands. However, there are still two theoretical gaps in previous literatures on association between work-to-home conflict and health. Firstly, whether work-to-home conflict is to cause dominant detrimental effect on health is unclear and whether the association is applicable worldwide or context conditioned still require more evidences in non-Western context, especially in less egalitarian contexts. Secondly, the basic assumption of work-to-home conflict is concentrated on time and energy competition, which indicates that time use should be the most important pathway for the link between work-to-home conflict and health outcome. However, previous studies rarely confirm the assumption. Our study intends to fulfil the two unsatisfied theoretical gaps by the China-based case study. On one hand, China provides such an ideal context in sharp contrast with the Western developed context, and it turns out that our study rejects the work-to-home conflict hypothesis. Moreover, we firstly proved that the assumption of work-to-home conflict is problematic, working hours is not in conflict with gender display time spent on housework or caring children and old parents, but in conflict with time to spend on social activities and sleeping which demonstrate significant protective effect on depression symptom.

CONCURRENT PANEL V

OTHERS

TUESDAY, 30 OCTOBER 2018

AKASIA ROOM, IGS

Overcrowded Jails in the Philippines – A Cause for Concern

Rola Palalon Ombao

University of the Philippines, Diliman

Since President Rodrigo Duterte started his term last June 2016, many people have found themselves inside the prison. State auditors attribute this to the increasing number of drug-related cases due to the president's unstoppable "war on drugs". Since the campaign started, police arrests have increased significantly. According to the Commission on Audit, in 2017, jails in the country are already 612% overpopulated. The original capacity of prison facilities is 20, 653 while the total jail population is 146, 302 so far. Because of this, inmates sleep either on thin sheets or bare concrete floor. As a result, the Bureau of Jail Management and Penology has conceded that jail congestion is the major cause of the spread of infectious diseases among inmates. Some of the diseases recorded include upper respiratory tract infection, hypertension, allergic rhinitis, influenza, boils, irritant contact dermatitis, scabies, acute gastroenteritis, asthma or bronchial asthma, and heat rash. Although people inside jails have done something wrong to people or society in general, the issues of healthcare and health policies are important bioethical concerns that need to be discussed and addressed. In fact, this situation violates the United Nations Standard Minimum Rules for the Treatment of Prisoners and the BJMP Manual on Habitat, Water, Sanitation and Kitchen in Jails. Ultimately, the paper aims to examine the situation of prison facilities in the country, ask significant questions and suggest appropriate measures as to how such problems can be addressed in order to protect the rights and overall health of inmates.

The Diagnostic Accuracy of a Biosensor-Based Point-of-Care Test (POCT) and a Commercial Enzyme-Linked Immunosorbent Assay (ELISA) for the Diagnosis of Dengue Fever

Chong Zhuo Lin, Shamala Devi Sekaran, Soe Hui Jen, Devi Peramalah, Sanjay Rampal Lekhraj Rampal, Ng Chiu Wan

Department of Social and Preventive Medicine, Faculty of Medicine, University of Malaya; Faculty of Medicine & Biomedical Sciences, MAHSA University; Department of Medical Microbiology, Faculty of Medicine, University of Malaya.

Introduction: Diverse and vague clinical manifestation makes dengue difficult to diagnose. Laboratory-based dengue diagnostics are accurate but require more time to result. POCTs for dengue are rapid but not as accurate. Biosensor-based POCT may be rapid and accurate. Objective: to estimate the diagnostic accuracy of a biosensor-based POCT and a commercial ELISA for the diagnosis of acute dengue infection in a laboratory setting. Methods: 91 archived serum samples comprised of 50 cases and 41 controls previously collected from hospitalised patients with suspected dengue aged 14 and above were used. They were ascertained upon collection through real-time reverse transcription-polymerase chain reaction (RT-PCR), Pan-E Dengue Early ELISA, Immunoglobulin M (IgM) ELISA and haemagglutination inhibition (HI), with case defined as tested positive on any of the above. From June to August 2017, these samples were tested concurrently on ViroTrack Acute Dengue NS1 Ag Test (BluSense Diagnostics, Denmark) and SD Dengue NS1 Ag ELISA (Standard Diagnostics, Korea) by two independent researchers blinded to the reference standard. Sensitivity (SN), specificity (SP), positive and negative predictive value (PPV/NPV) were computed using STATA version 12. Results: The ViroTrack had SN of 92.0% (95% CI 80.8-97.8) and SP of 95.1% (95% CI 83.5-99.4), as compared to 82.0% (95% CI 68.6-91.4) and 92.7% (95% CI 80.1-98.5) for the SD NS1 ELISA, respectively. The PPV and NPV were 95.8% (95% CI 85.7-99.5) and 90.7% (95% CI 77.9-97.4) for ViroTrack, versus 93.2% (95% CI 81.3-98.6) and 80.9% (95% CI 66.7-90.9) for SD NS1 ELISA, respectively. Conclusion: The diagnostic accuracy of ViroTrack Acute Dengue, a Biosensor-based POCT, is comparable to that of SD NS1 ELISA. Taking only less than 15 minutes to result, it may be an alternative to existing dengue diagnostics including POCT.

The Readiness of Lebak Banten as the District of Human Rights Care: Case Study of Baduy Community

Dumilah Ayuningtyas, Asri Nur Maulidya, Raden Roro Mega Utami

Health Administration and Policy Department, Faculty of Public Health, Universitas Indonesia

Indonesia has various tribes with ethnic and cultural diversity, including the Remote Indigenous Tribe (RIT). Governments are required to grant citizens' rights fairly while respecting customs and traditions. The Regulation of The Minister of Justice and Human Rights No.34/2016 has been stipulated on the obligations of local governments in fulfilling human rights, including in the health field. Baduy tribe is one of RIT in Lebak regency which lives closed with custom and taboo belief from modern life and medical technology/treatment. This study purpose to analyze the readiness of Lebak Regency as the District of Human Rights Care, especially on the health aspects of the Baduy community. A qualitative approach was conducted to analyze the human rights indicators' compliance in the district through structured in-depth interviews. Informants are chosen based on the principles of appropriateness and adequacy, including health personnel, community members, and local government elements. Content analysis and triangulation were applied while maintaining the ethical aspects. The efforts to convince the Baduy community to labour at health facilities still face obstacles. The unequal distribution of official resident identity cards and difficult road access makes it difficult to obtain basic health services. Aside from taboo beliefs, they also perceive that health facilities are expensive and the last option in labour help in case of emergency. Local Government needs to be more proactive to open the community access, intensify the "moving" health facilities (mobile health centres, midwife visits) and multi-sector collaboration; to create Lebak Regency as the District of Human Rights Care.

Comparison of Bilirubin Level Measurement using Noninvasive Transcutaneous Bilirubinometer in 3 Different Sites in Term Neonates

Yoong Lee Yeen| Monica Mimi Lim, Lili Tresa A/P Arulanandam, Rozita binti Ariffin, Rohani binti Ismail, Zaleha binti Abdul Hamid

Public Health Division, Health Department of Federal Territories Kuala Lumpur and Putrajaya (JKWP KL&P)

Introduction: Noninvasive transcutaneous bilirubinometry ("NITcBM") is a noninvasive method measuring bilirubin levels through skin surface. This study aimed to compare the accuracy of transcutaneous bilirubin level ("TcB") measurement of term neonates ("TN") at 3 different sites: Sternum, abdomen and thigh. Methodology: A cross-sectional study with 200 TN aged day 1-14 of life with gestational age >37weeks, randomly selected from 2 health clinics in Kuala Lumpur ("KL") Malaysia: Tanglin Health Clinic and KL Health Clinic, from October 2017 to June 2018. TcB of 200 TN was measured using JM-105 Drager transcutaneous bilirubinometer in the sternum, abdomen and thigh. TcB sternum ("TcBs") was measured from skin surface of the sternum at nipple line. TcB abdomen ("TcBa") was measured immediately below umbilicus, whereas TcB thigh ("TcBt") at 3 fingerbreadth below inguinal fold of the thigh. The capillary bilirubin level ("TSB") was measured using capillary bilirubinometer within 30 minutes for comparison. IBM SPSSv20 was used to analyze the data. Results: Total 200 TN (N=200) with mean TSB of 202.45umol/L,SD:59.58 were included. The Pearson Correlation between TcBs and TSB was $R=0.885$ ($p<0.001$) and ANOVA test $F=7.432$ ($p<0.001$). The Pearson Correlation TcBa and TSB was $R=0.855$ ($p<0.001$) and ANOVA test $F=5.769$ ($p<0.001$). The Pearson Correlation of TcBt and TSB was $R=0.808$ ($p<0.001$) and ANOVA test $F=6.006$ ($p<0.001$). Conclusion: The TcB of the 3 measurement site for NITcBM significantly correlated well with the TSB of 200 TN from KL, potentially substituting the invasive capillary bilirubinometry. The sternum is significantly the most accurate measurement site for NITcBM, followed by abdomen thereafter thigh.

Exploring Core Competencies of Global Health Education from Asian Perspectives: Experience from a Practice- oriented Course

Ping-Hsun Chang, Yi-Hsuan Lee, Po-Shu Wu, Zi- Jiang Lim, Kuen-Cheh Yang

National Taiwan University Hospital Hsinchu Branch; Koo Foundation Sun Yat-Sen Cancer Center, National Taiwan University School of Medicine

Global health competencies were well discussed in various literatures. However, there are relatively few global health courses in Asian medical education systems. Since 2013, we started an innovative global health course in Nation Taiwan University Medical School. It was a combination of 4-month classroom courses, another 4-months projects planning, and finally 3-week overseas medical missions in remote villages. Through literature reviews, ten themes of competencies were identified and applied in classroom courses. After finishing the classroom courses, students were requested to propose health-promoting projects in teams, and put them into practice during the medical mission led by senior doctors. To explore which competencies were more practical in real-life medical missions, we conducted semi-structured interviews. Qualitative analysis was performed to analyze knowledge and abilities students considered important. In interviews, capacity strengthening, professional practice, program management, sociocultural awareness were more focused competencies. On the contrary, some traditionally highly ranked competencies were seldom reported. We also found that personal experience and reflection, helping versus being helped relationships were frequently mentioned, but less discussed in previously reviewed literatures. Global health topics are diverse and sometimes far from daily lives. In this course, students need to aggregate their classroom knowledge, find extra resources and information to form plans, and put them into real practice. This practice-by-doing method is very effective in learning pyramid. Our study also provided a glimpse of how global health was like from oriental perspectives. Our future aim is to develop tools for more conveniently evaluating global health competencies, and to use it on future studies

POSTER CONTEST

Does the Absence of Adult Children Migration Influence the Health of Parents Left Behind? The Impact from Rural to Urban Migration in China

Zhu he

Osaka University

This study focuses on those who are left-behind parents. There always a conflict on the causal problem and reverse causal problem with the children's migration and left-behind parents. This paper use the RUMiC (2008) data set that has individual measures of migrants and their parents to empirically investigate the effect of adult children's rural-urban migration on the health of the left-behind parents. By indicating the effect of migration timing, and an endogenous probability model with instrumental variable correction, this research provides empirical evidence that the percentage for health outcomes decrease almost 50 percent if they have at least one migrant child. Even worse, for those left-behind parents who live alone, this number rise up to 60 percent due to the absence of their migrate children.

Detection of *Salmonella enterica* in retail chicken eggs from a selected public market in the City of Manila

Anna Dominique Z. Sasil, Angela Nicole M. Mananghaya, Zepha Marie M. Caalim, Noreen Joy C. Garces, Gabrielle V. Larin, Maria Margarita M. Lota, MD, DPPS

University of the Philippines-Manila

Chicken eggs are commonly implicated food vehicles in transmitting human Salmonellosis. *Salmonella enterica* serotypes are one of the most common causative agents of Salmonellosis. However, there is a scarcity of available information on the presence of *Salmonella* in eggs in the Philippines. The primary objective of this study is to determine the presence of *S. enterica* serotypes from different parts of the chicken egg sold in a selected public market in the City of Manila. Seventy-two egg samples were obtained from the selected public market, and were examined following the methods set by the Bacteriological Analytical Manual (BAM). A total of 184 colonies were isolated, 40 (22%) of which were undetermined since they failed to satisfy the discard criteria and to meet any of the biochemical profile of identifiable *S. enterica* serotypes. Among these undetermined isolates, 1% were identified to be *Shigella* spp., while another 1% were found to be *Providencia* spp. The rest (20%) were classified as potential *Salmonella* isolates. These were obtained from 29 (40%) out of the 72 eggs. Out of these 29 eggs, 19 (66%) had isolates coming from the egg shells, while 7 (24%) had colonies from the egg content. The remaining 3 (10%) eggs had isolates from both the egg content and the shell. Furthermore, 21 (87%) out of the 24 stalls had at least one of their eggs possibly contaminated with *Salmonella*. Further testing through serotyping methods is suggested to ascertain the presence of *S. enterica* in the examined chicken eggs.

Prevalence of smoking and its contributing Factors associated with smoking factors among medical students of Kathmandu Valley

Sujan Babu Marahatta

MMIHS

Introduction. Smoking among health care personnel such as medical students is an important public health issue. Future health care providers specifically, medical students are seen as a role model in a society and therefore, controlling their smoking behaviour bears a higher social value more than a mere public health concerns. Methods. This was a descriptive cross-sectional study carried out among third and fourth year medical students within Kathmandu Valley. A pre-tested structured questionnaire was used for data collection. A total of 398 students were interviewed using the questionnaire. Socio- demographic factors, environmental factors and motivational factors were assessed to identify relation of smoking behaviour of medical students with these factors. Data analysis and interpretation was conducted using SPSS version 22.0. Results. The prevalence of smoking at least once among medical students was 32.5% and the current smoking was 22.8%. Among various factors, being male and having a family member and friends smoking was found associated with smoking. Availability of cigarettes (offered) and feeling comfortable to smoke at parties were found associated with smoking. Exposure to anti-smoking messages were not enough to inhibit current smoking behaviour, however, discussion about harms of smoking at family was found to be associated with lesser smoking. Conclusion. The study revealed that the prevalence of current use of tobacco was 22.8%. To prevent current smoking behaviour amongst medical students, consideration of socio-demographic factors are necessary. In order to effectively prevent such behaviours, apart from regulatory policies within the medical institutions, a concerted efforts involving their parents, teachers and peers could become promising.

Perception of students about health concerns and health promotion in Ahmadu Bello University Zaria

Waziri Bala Kwata

National Open University of Nigeria

Attached is my Abstract for your examination and acceptance to participate in the oncoming conference.

Understanding Risky Sexual Behaviors among Filipino Adolescents: A Conceptual Framework

Paul Froilan U. Garma, University of the Philippines Manila College of Nursing

Risky sexual behaviours place Filipino adolescents to precarious situation of contracting sexually transmitted infections, sexual violence and unintended, early pregnancies. Data from the recent Young Adult Fertility and Sexuality study (2013) reveal striking figures about the risky sexual behaviours of adolescents. Drawing empiric support from the YAFS and relevant local studies and synthesis of health behaviour models, this theoretical paper attempts to offer a conceptual framework towards a shared understanding on risky sexual behaviours among Filipino adolescents. The proposed explanatory framework posits that values/attitudes, beliefs and perceptions influenced by individual and environmental characteristics determine the behavioural intent and subsequently, the actual engagement in risky sexual behaviours. The transition period of being adolescent marked by sexual development, creating identity and intimacy, a psyche of invincibility and impulsivity, a turbulent moment of storm and stress, and assertion of independence and recognition contribute to this phenomenon. Health programs on sexual health for Filipino adolescents should look into the interplay of these concepts in order to effectively mitigate the impact of risky sexual behaviours on adolescent sexual and reproductive health.

Assessing Safety Management and Safety Practices on Improving Safety and Patient Outcomes in the Malaysian Health Care System

Au Yong Hui Nee

Universiti Tunku Abdul Rahman (UTAR)

The study focused on the perception of healthcare professionals on safety compliance in Malaysian healthcare sector. Among many factors, human factors are critical for improving safety performance and quality care. Self-determination theory focuses its attention on social-contextual factors that influence motivation, self-regulation, mental health and well-being. The study aims to assess safety performance among healthcare professionals. The study examines factors affecting safety performance among healthcare professionals in Malaysia. The results will provide insights into the provision of safety management program for effective safety performance and quality care. The survey was conducted in November 2017 to January 2018; the respondents were from various departments of medical centres located in Malaysia. The most important factors impacting the safety performance was safety practices, while there was a moderate impact to quality care. The study shows opinion of professionals working in the healthcare sector. With the positive relationship between safety performance and quality care, the higher level of safety performance achieved in the healthcare, the better will become the patient's quality care. Safety performance among medical professionals in Malaysia could be further improved by promoting safety management programmes. It is recommended that optimising the work system and encouraging the active and adaptive role of healthcare professionals are key principles for improving safety performance and quality care.

Biodegradation of Polyethylene glycol and Low-density polyethylene Bacteria Isolated from a Sanitary Landfill in the Philippines

Jonas Emmanuel M. Estrada, Josh Christian O. Protacio, Nacita B. Lantican, Marilen Parungao Balolong

University of the Philippines Manila; University of the Philippines Los Banos

Plastic pollution is a major problem due to the recalcitrant nature of plastics. The most common plastics include polyethylene, which includes polyethylene glycol (PEG) and low-density polyethylene (LDPE), which is often used to make plastic bags and containers such as bottles and used for a variety of applications. Bacteria were isolated from a local sanitary landfill in the Philippines (Pangasinan) and screened for PEG degradation. This is the first research initiative conducted for this landfill for prospecting plastic-degrading bacteria. Four LDPE-degrading bacteria from the initial screening using selective culture isolation were evaluated through a modified Sturm test. The differences in the amount of CO₂ gas that evolved from the control and treatment setups were determined to be significant, indicating that the CO₂ gas in the treatment bottles were due to the degradation of the LDPE by the bacterial isolates. Through 16S rRNA gene sequence analysis, the bacteria were identified as *Azospirillum fermentarium* E6XIII, *Enterobacter xianfangensis* B6IVb, *Escherichia hermannii* C4b, and *Xanthobacter flavus* B6IVa. Among the four, only *Xanthobacter flavus* B6IVb has been previously reported to degrade plastics. Thus, our study presents for the first time a report on the PEG and LDPE-degrading ability of *Azospirillum fermentarium* E6XIII, *Enterobacter xianfangensis* B6IVb and *Escherichia hermannii* C4b isolated from Philippine landfill.

A Cross – Sectional Study – Relationship of Waist – Hip Ratio (WHR) With Disability on ≥ 45 Ages in Indonesia (Data Analysis of Family Life Survey V 2014)

Helda Binti khofifah

NGO

ADLs disability have been increasing every year, so dependently ratio of oldest people increased too every years. Measurements of waist – hip ratio in oldest people are as the true indicator to identify at increased risk of accumulation of abdominal fat. It's related with some chronical diseases and maybe can be developing into disability. Research objective is to analyze the relationship between waist hip ratio and disability in people with ≥ 45 ages. Research design is cross sectional. Population are all people with ≥ 45 age according criteria in IFLS V at 2015. The result showed that Prevalence Ratio ADLs disability and waist – hip ratio are 2,7 after controlled by interaction variable of gender by WHR, job by WHR, and smoking status by WHR. According the result so advices someone always have been mesured waist – hip ratio especially at someone with ≥ 45 ages especially for individual without activity and smoking, because the both have synergic interaction with waist hip – ratio.

EVALUATION OF NATURALLY OCCURRING RADIOACTIVE MATERIALS IN MINING SITES IN LOBO, BATANGAS USING GAMMA SPECTROSCOPY WITH SODIUM IODIDE THALLIUM ACTIVATED DETECTOR

John Carlo C. Lorenzo

University of the Philippines; Asian Development Bank

Gamma Spectrometry with Sodium-Iodide detector was utilized to measure the activity concentration and absorbed dose rates of Naturally Occurring Radioactive Materials from soil samples collected from gold mining sites of Barangays Balibago, Mabilog na Bundok, and Sawang, in Lobo, Batangas. The analysis of soil samples was conducted at the Philippine Nuclear Research Institute. With proper measurement and evaluation, the values of radioactive contents in the mining sites of the three Barangays were assessed using the international standards on radiation protection. It is found that the activity concentrations of K-40 is 653.439 ± 5.26 -Bq/kg in Barangay Balibago, 635.648 ± 5.12 -Bq/kg in Barangay Mabilog Na Bundok, and 610.464 ± 4.91 -Bq/kg in Barangay Sawang, they are higher than the world activity according to UNSCEAR (420-Bq/kg). The activity concentrations of Th-232 were 2.591 ± 0.19 -Bq/kg in Barangay Balibago, 2.384 ± 0.11 -Bq/kg in Barangay Mabilog Na Bundok and 2.606 ± 0.12 -Bq/kg in Barangay Sawang. Finally, the activity concentrations of Uranium-238 were 2.837 ± 0.28 in Barangay Balibago, 2.193 ± 0.16 -Bq/kg in Barangay Mabilog Na Bundok, and 1.913 ± 0.05 -Bq/kg in Barangay Sawang. Both the activity concentrations of U-238 and Th-232 were lower than world activity that was prepared by UNSCEAR (50 Bq/kg for Uranium-238 and 45-Bq/kg for Thorium-232). The calculated absorbed dose rates were 30.124 ± 0.449 -nGy/hr in Barangay Balibago, 28.959 ± 0.378 - nGy/hr in Barangay Mabilog Na Bundok, and 27.664 ± 0.304 -nGy/hr in Barangay Sawang, they were all less than the recommended radiation exposure by the International Commission on Radiation Protection which is 59-nGy/hr.

Relationship between the Level of Adequacy of Nutrients, Breakfast Habits, And Physical Activity with Overweight in Students SDN Depok Baru VI, 2017

Lintang Windu Ningsih, Aryo Bimo Wicaksono

Nutritionist

Background. Overweight one of the problems in the community today. Overweight more influenced by nutritional intake that are not accordance with nutritional adequacy, the habit of not breakfast, low physical activity, genetic factors and environmental factors. The impact if a child overweight among other things trigger depression, ruined the lever, coronary heart disease, diabetes, stroke and osteoarthritis. In Indonesia, prevalence of malnutrition in children aged 6-12 years amounted to 9.2%. More nutritional incidences in Depok on the age of elementary school amounted to 23.6%. Objective. The objective of this research was to analyze the relationship between the level of adequacy of nutrients, breakfast habit and physical activity with overweight in SDN Depok Baru VI. This research use cross sectional method. The sample on this research totalled 52 respondents used by stratified random sampling technique. Analysis of the test use by bivariate chi-square. Result. The results showed there were relationship between the level of adequacy of energy, fat, carbohydrate and physical activity with overweight. However, there were no relationship between the level of adequacy of protein and breakfast habits with overweight. Discussion. The correlation test showed that the adequacy of energy, fat, carbohydrate and physical activity with overweight. There were no relationship between the level of adequacy of protein and breakfast habits with overweight.

Making Post-Trial Access a Reality in Malaysia

Medicines marketed in high-income countries are increasingly being tested in low- and middle-income countries where participants lack access to quality healthcare. Patients in low- and middle-income countries who participate in clinical trials (CTs) will receive investigational drug that may be life-saving, but once CTs end, so will the patients' access to this beneficial drug. As the forerunner in research ethics in Malaysia, the Medical Research & Ethics Committee (MREC) conducted a study to determine the proportion of CTs that addresses PTA in the researches it reviewed. A total of 206 CTs from 2016 were extracted and analysed. There were 8 out of the 61 phase II and III CTs that support the transition of participant to care when the research concludes while the rest of the CTs denied or omitted PTA in their participant information sheets. The lack of PTA in Malaysia, a middle-income country, does not fully observe the current international standards on PTA. Although PTA should be considered on humanitarian grounds, it is not necessary in all situations. Criteria should be established by stakeholders in Malaysia to identify situations where the beneficial drugs should be provided to patients beyond the trial period for continuity of care. Nevertheless, PTA must be made mandatory for research participants who receive significant benefit from the drug that lacks alternative treatment option, and the termination of the drug would lead to patient's overall deterioration. The successful implementation of PTA can be accomplished by advanced systematic planning and establishing a partnership among various stakeholders.

Measles Outbreak among the Unimmunised Palauh ‘Sea Gypsies’ Community in Tun Mustapha Marine Park, Kudat in 2018

Dr. Hazeqa Salleh, Dr. Farah Aishah Hamdan, Dr. Omar Kwang Kugan

CDC Unit Jabatan Kesihatan Negeri Sabah; Family Medicine Specialist, Klinik Kesihatan Tandek, Sabah; Pegawai Kesihatan, Pejabat Kesihatan Kawasan Kudat, Sabah

Introduction: Scattered communities of Palauh ‘Sea Gypsies’ live at the coastal waters of islands in Tun Mustapha Marine Park, Kudat. Being stateless and nomadic, they have poor health-seeking behaviours and lack access to health care services including routine child vaccination. They are therefore susceptible to vaccine-preventable diseases. In April 2018, local health clinic on the largest island notified three suspected measles cases among a family of Palauh. Methods. Investigation and control measures were carried out by the health clinic and district health office. All cases of laboratory-confirmed measles and epidemiologically-linked suspected cases that presented with fever and maculopapular rash during this outbreak was investigated. Active case detection (ACD), contact tracing and Supplementary Immunisation Activities (SIA) were done immediately. Nasal swabs and urine samples were sent for virus isolation and genotype identification. Health education and surveillance activities were done. Results. There were 13 measles cases reported with their ages ranging between one to 17 years old. 4 cases were found through ACD. All cases were positive for Measles IgM with no history of being vaccinated before. Genotyping analysis results were still pending. All cases were epidemiologically-linked with each other although they lived in different coastal waters in this group of islands. Conclusions. Palauh ‘Sea Gypsies’ face poor health care access due to legal status, distance and poverty. Their behaviour on seeking treatment late can result in poor prognosis and further spread of infectious diseases. This measles outbreak was successfully controlled through timely implementation of control measures and targeted SIA

Payment Trends Provided to Healthy and Non-Healthy Research Subjects in Malaysia

Ching Shan Lii

Medical Research Ethics Committee

Payment concept to research participants remains contentious. Lack of standardisation with wide variability amongst IECs exists as a result of scarcity in payment guideline. We seek to understand payment trend and its expression in research reviewed by the largest IEC in Malaysia. Interestingly, not all were offered payment. Unsurprisingly, this mirrored the existing varying views of the research community; from payment advocator (although uncertainty to what constitutes appropriate payment may exist) to payment detractors who believe that it is unethical and may cause undue inducement. Some believe participation, particularly healthy volunteers should be devoid of payment and solely driven by altruism. Conversely, payment advocators maintain that while non-healthy volunteers may benefit from participation, these benefits are not translated to healthy volunteers where risks faced, although minimal, is real and unnecessary. It is therefore fundamentally ethical if participants are not made to pay when contributing towards the social good of research. Arguably, payment is ethically defensible as long as sufficient diligence was practised with appropriate informed consent process carried out to ensure pure volunteerism during participant selection. Our results have important implications to IECs where widely varied payment amount offered exists. A delicate balance lies in ensuring sufficient protection of participants' rights while avoiding inducement in the determination of payment amount, and the focus should be on burden rather than risks involved. It is therefore worth considering having standardised payment schedules within the IEC as it introduces consistency and transparency to guide investigators and IECs in achieving the best ethical practice.

Evaluating the effect of Shanghai Standardized Resident Training Program from the perspective of residents

QIAN Wenji, JIN Jiajie, WAN Zhiqiang, XU Miao, ZHOU Rong, ZHANG Kan, HUANG Jiayan

School of Public Health, Fudan University/Key Laboratory of Health Technology Assessment, National Health Commission; Division of Science and Education, Shanghai Municipal Commission of Health and Family Planning

Objective. To evaluate the effectiveness of Shanghai Standardized Resident Training Program from the perspective of residents, and to provide evidence and recommendations for the further promotion of the program. **Methods.** A three-year cohort was set up and all the residents enrolled into the Shanghai SRT Program in 2013 were included. Questionnaires were administered to residents every year in June from 2014 to 2016. The survey included the basic information of residents, their understanding and attitude toward the program, their satisfaction with the program and the assessment of self-improvement. Using random effect model to analyze the data. **Results.** There were significant improvements in residents' attitude and satisfaction. Residents have high self-rated score in most respects, especially in clinical skills. However, the self-rating of theoretical knowledge is relatively low. **Conclusions.** The effectiveness of Shanghai Standardized Resident Training Program has already shown up and has been approved by all stakeholders. Shanghai Standardized Resident Training Program sets up an expert group to conduct regular supervision of the training bases in order to find and solve problems in time. This measure helped to improve the training environment and living conditions of residents which finally led to the improvements in residents' attitude and satisfaction. The program has effectively improved the clinical skills of residents by continuous improvement of the top design and unified training requirements formulated and implemented at the city level.

Monocyte chemotactic protein-1(MCP-1), Toll-like receptors (TLRs) and interleukin (IL) gene polymorphisms in risk of tuberculosis

Jianmei Wang, Yue Wang, Nan Qin, Weibing Wang, +86 18817533076

+86 13764236490, +86 17621688029, +86 13601900570

The genetic variants of the host's Monocyte chemotactic protein-1 (MCP-1), Toll-like receptors (TLRs) and interleukin (IL) genes, were earlier reported to be associated with susceptibility to tuberculosis. Using a hospital-based case-control association study in Quzhou City, Zhejiang Province, China, 11 SNPs in these genes (rs1024611, rs2857656 and rs4586 in MCP-1; rs3804099, rs7932766 and rs8177374 in TLRs; rs375947, rs436857 and rs393548 in IL-12R β 1; rs3762317 in IL-12R β 2; rs187238 in IL-18) were identified and genotyped in 143 pulmonary tuberculosis patients and 226 healthy control subjects by Mass array time-of-flight mass spectrometer method. Single-point analysis revealed two SNPs (rs1024611 and rs2857656) of MCP-1 were associated with susceptibility to tuberculosis. However, no significant association of other 9 SNPs with either resistance or susceptibility to tuberculosis was found. Further by using genetic models, the additive models of rs1024611 revealed that the carriers of the T allele had a 1.439 fold (95% CI=1.037-1.995, $p=0.029$) increased risk of tuberculosis, while rs2857656 had a 1.476 fold (95% CI=1.037-1.995, $p=0.020$). Likewise, haplotype analysis revealed that haplotype TGT containing T allele of rs1024611, G allele of rs2857656 and T allele of rs4586 was also associated with susceptibility to tuberculosis ($p=0.040$). Thus, our findings support the association of MCP-1 gene (rs1024611 and rs2857656) polymorphisms with genetic susceptibility to tuberculosis in Quzhou City, and the findings emphasize the importance of MCP-1 mediated immune responses in the pathogenesis of tuberculosis.

Predictors of low back pain among school teachers in Selangor, Malaysia

Mrs. Eva Nabihah binti Zamri, Assoc. Prof. Dr. Moy Foong Ming, Prof. Dr. Victor Hoe Chee Wai bin Abdullah |

Cluster of Lifestyle Science, Advanced of Medical & Dental Institute, Pulau Pinang, Malaysia; Julius Centre University of Malaya, Department of Social & Preventive Medicine, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia; Centre for Occupational and Environmental Health-UM, Department of Social & Preventive Medicine, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia

Background. Low back pain is the most common occupational health problem among school teachers. However, lack of longitudinal evidence were looking on predictors and the course of low back pain among this population. Therefore, this study aimed to determine the course and the predictors of low back pain among secondary school teachers. Methods. This was a prospective cohort study conducted in the secondary schools in Selangor, Malaysia. Information on socio-demographic, lifestyle factor, body mass index, work related factors, psychological factors and low back pain were collected at baseline. Associations between predictors and low back pain were analyzed by logistic regression and reported in terms of odds ratio (OR) and 95% confidence interval (CI). Results. Majority teachers had mean age 40.29 (standard deviation (SD): 8.81) years, Malays (81.9%) females (85.6%). At 12-month follow-up, there were 44% had low back pain. In the multivariate analysis, the occurrence of low back pain was predicted by psychological factors namely pain catastrophizing, fear avoidance belief about physical activity and work, symptom of depression, anxiety and stress, high somatizing tendency and low back pain at baseline. Conclusion. Our findings indicated that psychological factors and low back pain at baseline play an important role in the future of low back pain.

Factors associated with participation of Colorectal Cancer (CRC) screening: a qualitative study

Colette Leung, Jingxuan Wang, Peter Choi, Sophia Leung, Simpson Ng, Zero Hui, Junjie Huang, Jason LW Huang, Martin CS Wong, JC

School of Public Health and Primary Care, Faculty of Medicine, Chinese University of Hong Kong, HKSAR, China

Background. Colorectal Cancer (CRC) is one of the most common cancers worldwide. Regular screening is recommended to reduce mortality rate, yet little is known about the factors associated with screening uptake. The aim of this study is to explore the perceived enabling factors and barriers of participation in a government subsidised CRC screening programme. Methods. A qualitative study was performed based on 16 focus group interviews among 237 individuals aged 61-70, consisting of 112 participants and 125 non-participants of the government subsidised CRC screening programme. Thematic analysis was applied to the transcribed verbatim for coding. Data were analysed with respect to the perception of participants towards CRC screening. Results. The major enabling factors of participating in the CRC screening programme included subsidies, adequate promotional activities, clear instructions of procedures for programme enrolment, and simple collection procedures of faecal specimens. Most common barriers consisted of insufficient information on programme registration, misperception of CRC as a disease not requiring screening, complicated use of IT system, misunderstanding of programme details and apprehension towards screening. It was recommended to include detailed information in promotional materials to minimise misperceptions. Besides, more promotions could be performed in the elderly centres, general out-patient clinics and the district councils, which could raise the awareness of CRC and educate the general public. Conclusion. The findings of this study elucidated the enablers and barriers of participation in CRC screening programme. The identified barriers where the screening programme could be further improved can inform future strategies in enhancing screening uptake.

Occurrence of Clostridium difficile In Human Immunodeficiency Virus (HIV) Infected Patients

Mohammad Zahirul Hoque, Nur Nashyiroh, Zulina Mazlan, Shamsul Bahari Shamsuddin

Department of Pathobiology & Medical Diagnostics, Faculty of Medicine & Health Sciences, University Malaysia Sabah, Kota Kinabalu, Sabah, Malaysia; Pathology Department, Sabah Woman & Children Hospital; Ministry of Health, Kota Kinabalu, Sabah, Malaysia; Department of Community & Family Medicine, University Malaysia Sabah, Jalan UMS, 88400 Kota Kinabalu, Sabah, Malaysia.

Background. Clostridium difficile is a healthcare-associated infectious diarrhoea and its trend of incidence is on the rise. It possesses a significant public health concern. Several risk factors have been reported for the development of Clostridium difficile including immunosuppression. However, there is currently a paucity of information on Clostridium difficile in HIV positive hospitalized patients in Malaysia. We were interested to examine the incidence of Clostridium difficile in HIV positive patients from Sabah, Malaysian Borneo. Methods. This study was conducted from January 2016 to December 2017 from a tertiary care hospital in Sabah. Ethical clearance was obtained from the Medical Research Ethics Committee (MREC), Ministry Of Health, Malaysia (No. NMRR-16-1163-30925) and Research and Ethical committee University Malaysia Sabah No. (UMS) JKEtika 2/16(8). We have examined the Clostridium difficile by two commercial rapid diagnostic test kits according to the manufacturer's instruction. For HIV infection HIV combo and HIV 1/11 Ab tests were performed. Results. The overall prevalence of adult Clostridium Difficile in this study population was 4.6% (56/1214). We have identified five patents infected with HIV from fifty six adult Clostridium difficile patients and the rate of HIV infection was (8.9%). Conclusions. The result of our study suggests that HIV is frequently present among the clostridium difficile patients. It will be interesting to examine a large number of patents to identify the true incidence in the era of ART therapy and relationship will the CD 4 Cell count level.

CSUN Champions for Change: Nutrition Education and Obesity Prevention Program

Annette Besnilian, David Boyns, Scott Plunkett, Karmen Ovsepyan, Doug Kaback, Kenia Fuentes, Viridiana Ortiz, Karina Almanza

CSUN

Childhood Obesity has become a pandemic global crisis. Research shows that low-income Hispanic adults and children have a higher risk for childhood obesity and overweight conditions than other ethnic groups. Unhealthy eating habits and lack of access to fresh fruits and vegetables are two contributing factors identified to increase the risk of chronic conditions (e.g., obesity, diabetes, cardiovascular disease). There is a great need for primary prevention programs that can increase basic nutrition knowledge and can create access to fresh fruits and vegetables. One program that is showing great potential and having great impact in the community of Canoga Park, USA is the Champions for Change program. This program is taking a holistic approach using the Social Ecological Model as a framework targeting all three level of a person's life (e.g., individual, institutional, and environmental). Using edible gardens as teaching platforms and connecting the environment to overall health, this program provides nutrition education (individual level). Students and parents are engaged in building edible gardens at school sites and community centres (institutional). Furthermore, the program engages parents, community leaders, and school representatives in collaboration and resource sharing with the goal of increase availability of fresh fruits and vegetables at the community's food pantry (environmental level).

Towards Achieving United Nations HIV/AIDS 90-90-90 goals in Nigeria: Knowledge and Attitude of the Prisoners

Adebisi Yusuff Adebayo, Don Eliseo Lucero Prisno III, Aniekan Ekpenyong, Rabeya Mashferat Mary

University of Ibadan, Nigeria; University of the Philippines; University of Uyo, Nigeria; Shaheed Monsur Ali Medical College and Hospital, Dhaka, Bangladesh

Background. Prisoners risk for infections including HIV/AIDS is very high due to their lifestyle. The aim of our study was to systematically review available evidences on their knowledge and attitude towards HIV/AIDS in Nigeria. Methods. A review of literature on PubMed, Scopus, Web of Science, Embase and Cochrane Library was performed from 2010 to 2017. This search was complemented with conference abstracts. The studies were screened for eligibility. 13 studies were chosen: 7 qualitative, 2 quantitative and 4 mixed methods studies. Qualitative content analysis was done with the resultant data extracted and summarized to highlight prisoner's knowledge and attitude towards HIV/AIDS. Results. The knowledge and awareness about HIV/AIDS was identified to be high with the mass media as the main source of information. The knowledge of the 90-90-90 target and antidiscrimination laws were identified to be low. There were certain misconceptions about HIV/AIDS as well as high risk behaviours among inmates' despite the perceived increase in knowledge and awareness about HIV/AIDS. Injection of drugs was also found to be common among the prisoners using unsterilized materials. The common sex practices identified among the articles were masturbation and homosexuality in which the latter represents the major cause of HIV in Nigerian prisons. Sociocultural factors and religion were not prominent factors influencing the knowledge of inmates. However, it had a significant effect on their attitude towards HIV/AIDS. Conclusion. More awareness needs to be carried out to address misconceptions about HIV/AIDS as well as reduce the prevalence of risky behaviours among inmates.

The predictive impact of genetic polymorphisms on progress of mild cognitive impairment to dementia and gene-environment interaction in Chinese population

Jian xiong Xi, Ding Ding, Qian hua Zhao, Xiao niu Liang, Li Zheng, Qihao Guo , Hua Fu, Jian feng Xu, Qianyi Xiao

*Department of Preventive Medicine, School of Public Health, Fudan University;
National Clinical Research Center for Aging Diseases, Huashan Hospital, Shanghai*

Introduction. As Genome-wide association study (GWAS) have identified plenty of single nucleotide polymorphisms (SNPs) associated with Alzheimer's disease or cognitive decline, we aimed to confirm the impact of these genetic polymorphisms and gene-environment interaction on progress of mild cognitive impairment (MCI) to dementia in Chinese Han. Methods. Demographic data and peripheral blood were derived from 316 patients with MCI in Shanghai Aging cohort. Thirty-seven SNPs were evaluated using Kaplan-Meier method with log-rank test and cox regression model to compare the progress of MCI to dementia. Results. Three SNPs were significantly associated with progress of MCI to dementia, including rs12091371 at FMN2 ($p=0.011$), rs35349669 at INPP5D ($p=0.004$) and rs4147929 at ABCA7 ($p=0.009$), and there was a significant dose-dependent effect of high-risk genotype number of these three SNPs. The risk of MCI-dementia conversion was significantly increased for participants two or more high-risk genotypes versus those with one or no risk genotype ($p<0.001$). BMI was also found to be significant predictor for progress of MCI to dementia (overweight Vs. Normal, $p=0.017$; obese Vs. Normal, $p=0.033$). Moreover, the co-presence of normal BMI and any one risk genotype of these significant 3 SNPs significantly increased the risk for MCI-dementia conversion than presence of overweight BMI and no risk genotype. INPP5D rs35349669 and ABCA7 rs4147929 had a significant interaction with BMI status in their association with MCI- dementia conversion risk (Prs35349669 \times BMI= 0.002, Prs4147929 \times BMI= 0.002). Conclusion. Our results underscore the direct genetic contribution to progress of MCI to dementia, as well as the genetic contribution to dementia through interaction with BMI.

Development, Characterization and Stability Studies of Mupirocin – Loaded Nanostructured Lipid Carriers for Intravenous Administration

Khent Alcantara, Agnes Castillo, Mohd Hanif Zulfakar

Our Lady of Fatima University, University Of Santo Tomas, Universiti Kebangsaan Malaysia

Mupirocin is a promising antibiotic that is effective in treating MRSA infections. It has a unique structure and mode of action from that most antibiotics. However, due to its rapid elimination and hydrolysis following injection and high protein binding, current therapeutic use is limited to topical administration. Nanotechnology-driven innovations provide hope in overcoming the problem of drug resistance, facilitating drug transport and protects drug from degradation. Lipid based nanoparticles have been widely used for the delivery of antibacterial agents. Nanostructured lipid carriers (NLC) offer the advantage of improved drug loading capacity, release properties and targeted drug delivery. The objective of this research is to develop and characterize Mupirocin-Loaded Nanostructured Lipid Carriers (M-NLC) for intravascular administration. The M-NLC was produced by high-pressure homogenization of solid (cetyl palmitate) and liquid (capric/caprylic acid) biocompatible lipids in 5 different ratios. The particles showed spherical shape under SEM. The mean particle size, polydispersity index (PDI) and the zeta potential (ZP) of the MNLC formulations, as determined by dynamic light scattering (DLS), were between 99.4nm to 235.0nm, PDI of 0.139 to 0.153 and ZP from -25.5 to -24.8. All formulation showed sustained drug release and good physical characteristics during three (3) months storage under 25°C and 40°C. The MIC of MNLCs were found to be at 1.56mcg/mL and 0.78mcg/mL against *S. pyogenes* and *S. aureus* respectively. These indicate an enhancement in antibacterial activity of Mupirocin against these two (2) bacteria after encapsulation into NLCs due to improved penetration of the nanoantibiotic into the cells.

Fight the Bite - Mobile Application to promote Dengue Prevention and Control for Malaysian

Nik Daliana Nik Farid, Siti Norsyuhada Mohd Roffeei, Rafdzah Ahmad Zaki

Department of Social and Preventive Medicine, Faculty of Medicine, University of Malaya; Julius Centre University of Malaya, Department of Social and Preventive Medicine, Faculty of Medicine, University of Malaya

Introduction: The global incidence of dengue has increased intensely in recent years and about half of the world's population is now at risk. Weather is one of the important driving forces behind dengue epidemics. With widespread use of smartphones, mobile applications may be useful for providing Malaysians with information on dengue to encourage prevention and control activities. This application provides knowledge on dengue including risk factors, signs and symptoms, prevention methods and its relationship with weather. Users will be able to check for dengue hotspot area, report dengue case and receive update on dengue cases in Malaysia. This app also provides reminder to practice dengue preventive activities based on weather information.

Methods: The content of the Fight the Bite app was informed by the Health Belief Model, a well-established theoretical approach to address the problem of dengue prevention. A university-based researchers and application developer provided input on app design and content. Researchers will evaluate the acceptability of the Fight the Bite app among Malaysian adolescents and adults to ensure its effectiveness. Results and Conclusion: Information on dengue hotspot area and alert on dengue risk will encourage users to conduct prevention and control activities at regular basis. This app is expected to improve user's knowledge on dengue, and empower users through interactive resources and reminder.

Prevalence and Factors associated with Dengue among the Community in Petaling District

Lee Soo Cheng, Mohamed Paid

Petaling District Health Office

Dengue is an endemic disease in Malaysia and about one fifth of dengue cases reside in Petaling district. The aim of this study was to determine the prevalence and factors associated with dengue among the community in Petaling district. A cross-sectional study involving secondary data from web-based notification system from 31st December 2017 until 16th June 2018 was carried out. Dengue was diagnosed based on World Health Organization dengue case classification and dengue combo NS1-IgG/IgM rapid test (DCRT). Data entered by healthcare facilities were age, gender, nationality, ethnicity, residential area and healthcare facilities visited. Out of 12101 patients notified, 52.1% (95% CI: 51.2, 53.0) had positive DCRT results. Univariately, dengue was associated with age group 7 to 12, 13 to 17, 18 to 24, 25 years old and above, male gender, foreigners, residential area in Shah Alam and individuals seeking treatment from private health care facilities. Among Malaysians, the odds of dengue were highest among the Chinese 1.91 (95% CI: 1.43, 2.54). In multivariate analysis, age group above 7 years old [2.34 to 5.53 (95% CI: 1.95, 2.80; 4.74, 6.45)], male gender 1.09 (95% CI: 1.01, 1.19), foreigners 1.75 (95% CI: 1.50, 2.), and individuals resided in Shah Alam 1.17 (95% CI: 1.05, 1.30) and Subang Jaya 1.17 (95% CI: 1.04, 1.31) remained significantly associated with dengue. In conclusion, the prevalence of dengue disease in Petaling district was high; hence timely dengue awareness programmes should be given to individuals with characteristics associated with dengue to reduce the burden of disease.

Titer of Anti-HBs Antibodies Following a Booster Vaccination among Medical Students

Komang Trisna Sumadewi

University of Warmadewa

Infection by hepatitis B virus (HBV) is a universal health problem in the world including Indonesia. It is forecasted that there are more than 2 billion people exposed to the virus where 1.5 million new cases diagnosed worldwide each year. According to the recent data in Indonesia, it is estimated that twenty-eight million people have been infected to Hepatitis B and C, in which 14 million of those are potential or capable to develop a hepatocellular carcinoma after 30 years. Healthcare workers and medical students are those who have higher risk of being infected by HBV, through minor skin cuts or needle punctures. HBV vaccination is the most effective way to prevent HBV infection. This research is aimed to determine the level of anti-HBs among medical students, prior and after the Hepatitis B vaccination. The research was conducted comparatively on 48 medical students. They were being examined prior to their assignment in hospital. Surprisingly, we discovered that there is a significant difference of anti-HBs level on both male and female students prior and after they received the vaccine with value $p < 0,05$. In conclusion, it is proven that by taking HBS vaccine, the medical students at Warmadewa University immune against the Hepatitis virus is a lot better in which provide them protection when they are required to have direct contact with infected people.

An investigation on trace elements and chemical health risk of selected electronic cigarettes in Malaysia

Siti Norfitriah Mohd Salim, Nasrin Aghamohammadi, Victor Hoe Chee Wai

Department of Social and Preventive Medicine, University of Malaya

The vaping or smoking electronic cigarettes are beginning to take hold in Malaysia and become a trend. In Malaysia, we are lacking in scientific evidence on the effects of e-cigarettes and potential health consequences. There is a need to get information about chemical compounds of local e-cigarette as no studies reported in Malaysia. This study aims to characterize the concentration of heavy metals for the most popular e-liquids and vapours from a local manufacturer and also investigate the adverse health impact on public. The heavy metals in e-liquids and vapour of e-cigarette 6 mg of nicotine and without nicotine with different flavours were analysed using Inductively Coupled Plasma Mass Spectrometry (ICP). Twelve heavy metals analysed in the study, and results shows few heavy metals were detected in selected samples. From the results obtained, among all e-liquids samples analysed, Iron (Fe) has the highest concentration with mean \pm SD of 0.387 ± 10.67 whereas Zinc has the least concentration with 0.001 ± 0.09 . In one session of vaping, none of the heavy metal detected except lead (pb) exceeding the safe permissible limit. However, 8 hour vaping session, the concentration of trace elements were higher than permissible limit by NIOSH in the most selected samples. In conclusion, the presence of heavy metals in e-liquids demonstrates the need for local manufactures to evaluate heavy metal contents in products and aim to alert the exposure to user as heavy metals are carcinogenic.

Correlation of Platelet Cytosolic Free Calcium Levels with the Degrees of Hypertension

Gil Soriano, Ma. Gladys B. Aquino

San Beda University, College of Nursing, De La Salle Medical and Health Sciences Institute

Despite many therapeutic advances that led to increasingly effective anti-hypertensive drug treatments, the World Health Organization (WHO) still rates hypertension as one of the most important causes of premature deaths worldwide. This study aims to determine the significant difference between the levels of platelet cytosolic free calcium levels in normotensive and hypertensive participants. This research also aims to correlate the platelet cytosolic free calcium levels with the corresponding degrees of hypertension. Descriptive correlational research was the design used in the study and convenience sampling was utilized to select 100 hypertensive and 25 normotensive individuals. Results revealed that significant difference were noted in the platelet cytosolic free calcium levels of the participants. Furthermore, a significant relationship was noted in the platelet cytosolic free calcium levels and the systolic and diastolic blood pressure of the participants.

Sexual Behaviours and Perceived Risk for Contracting Sexually Transmitted Infections (STIs) and HIV among Women Who Work at Badung Traditional Market, Denpasar City, Bali Province

Luh Gede Pradnyawati

Warmadewa University

This study aims to explore sexual behaviors and STIs preventative measures among women who work at the biggest traditional market in Bali Province. We adopted a mixed methods quantitative preliminary approach on women who work at the Badung Market in Denpasar, Bali. In this survey 100 women were studied by questioner and another 20 women studied by in-depth interviews. Data were collected in October 2016; quantitative data were analyzed using descriptive statistic, while qualitative data were analyzed using thematic approach. The results showed 60% of respondents perceived themselves as a low risk group for contracting STIs and HIV, 20% admitted they had sexual intercourse with more than one partner in the last year. Regarding preventative measures uptake, 41% of the respondents used condom on their last sexual intercourse with their affair partner. Our in- depth interviews revealed that the basis of their sexual intercourse was mutual interests and desire. However, one respondent admitted that she had sexual intercourse for economic reasons. We also found that they rarely used condom because they perceived the sexual relation as low risk behaviour. It is concluded women who work at the Badung Traditional Market, Denpasar performed some degree of high risk sexual behaviours. They had sexual intercourse with men other than their regular sexual partner and rarely used condom. Prevention programs targeting low risk groups are required if the burden of diseases of STIs including HIV is to be reduced.

Correlation of Total Ige Level, Eosinofil Count and Basophil Count with Infection Intensities of Ascaris Lumbricoides, Trichuris Trichiura and Hookworm among Farmers in Klungkung Regency, Bali

Putu Indah Budi Apsari

Parasitology department of Medical faculty Warmadewa University, Denpasar Bali, Indonesia

Soil transmitted helminth (STH) infection induce component of host's immune activation such as IgE, mast cells, eosinophils and basophils. The objective of this study was to assess correlation of total IgE level, eosinophil and basophil count with intensity of STH infection among farmers in Klungkung Regency, Bali. The cross sectional analytic study comprised 162 feces from farmers aged 25-80 years selected by simple random sampling, 20 blood sera from STH infected farmers, and 20 blood sera from uninfected farmers. Kato-Katz method was used to diagnose and determined intensity of infection by the number of eggs per gram feces (EPG). Total IgE levels were measured by enzyme linked fluorescent assay. Number of eosinophils and basophils were counted by flowcytometry. The results showed that prevalence of single *A. lumbricoides* infection was 1.9%, single *T. trichiura* infection was 9.3%, while single Hookworm infection was 0.6%, mixed infection of *A. lumbricoides* and *T. trichiura* was 1.2%, and mixed infection of *A. lumbricoides* and Hookworm was 0.6%. Significant difference was found in the number of eosinophils, basophils and IgE levels in STH-infected group versus uninfected group ($p > 0.05$). Significant correlation was found between eosinophil count with EPG ($r = 0,572$, $p = 0.00$), between basophil count with EPG ($r = 0.50$, $p = 0.001$, and between total IgE level with EPG ($r = 0.667$ $p = 0.001$). It is concluded that there was significant correlation between total IgE level, eosinophil and basophil count with intensity of STH infection among farmers in Klungkung Regency, Bali

Correlation between Body Mass Index and Systolic Blood Pressure in the Population of Pinggan Vilagge, Kintamani, Bangli District, Bali

Anak Agung Ayu Lila Paramasatiari

Warmadewa University

Hypertension is a health problem which causes many complications. Hypertension is the main trigger for cardiovascular diseases. Certain eating habits such as a diet high in calorie, cholesterol, and smoking are factors that cause various diseases, including hypertension. According to the literature, a 15% increase in body weight causes increases in blood pressure. The aim of the study is to assess the correlation between Body Mass Index and Systolic Blood Pressure in the population of Pinggan Village, Kintamani, Bangli. This study used a cross-sectional design with a descriptive method approach. The consecutive sampling method was used to collect 40 subjects of the population of Pinggan village, Kintamani, Bangli district, aged 20-75 years old. Blood pressure was measured using Riester sphygmomanometer and body weight was measured using GEA body weight scale. The data were analyzed by the Pearson correlation test to evaluate the correlation between Body Mass Index and blood pressure. The study samples consisted of 40% male and 60% female. Hypertension was found in 60% of the study subjects, most of whom suffered from grade II hypertension. The correlation test showed that there was no significant correlation between Body Mass Index and Systolic Blood Pressure ($p=0.26$; $r=0.18$). This non-significant result might be due to the relatively small number of the study samples.

Ethanol Extract Of The Purple Sweet Potato Tubers (*Ipomoea Batatas* L) Increases The Myometrium Thickness And The Number Of The Uterine Endometrial Gland In The Ovariectomised Female Mice

Desak Putu Citra Udiyani

Faculty of Medicine and Health Science, Warmadewa University

Menopause is women's physiological process, can treat by Hormone Replacement Therapy. Some adverse effects by HRT: endometriosis, venous thromboembolism. The alternative therapies is phytoestrogens: flavonoids (anthocyanin). Purple sweet potato tubers (*Ipomoea batatas* L) is plants with anthocyanin. Anthocyanin therapy increases the uterus myometrium thickness. This research to prove the ethanol extract of purple sweet potato tuber (*Ipomoea batatas* L) able to increase the myometrium thickness. This study used the Post Test Only Control Group Design with samples of 28 Wistar female rats were divided into 4 groups (@7 rats). The groups were control group (P0); 10 mg/kgBW of ethanol extract of purple sweet potato tubers group (P1); 30 mg/kgBW (P2); and 100 mg/kgBW (P3) administered orally for 30 days through sonde. On day 30th the uterus are removed and uterus histologic preparation are made. The thickness of the myometrium were observed histologically by HE staining. The results showed that the average thickness of the uterine myometrium between groups was statistically different ($p=0.000$). The highest thickness was P3, the lowest was P0. By the findings of this study, we concluded that ethanol extract of purple sweet potato tubers could increase the myometrium thickness on ovariectomised white rats.

The impact of chronic pain on physical function among older adults: a systematic review

Chan Yee Mang

Social & Preventive Medicine Department, University Malaya, Malaysia

Introduction: Geriatric population is expanding dramatically and chronic pain is affecting one third of older adults worldwide. We need to understand the impact of chronic pain among geriatric population to design effective prevention and intervention programmes. Therefore, this review aims to identify the impact of chronic pain on physical function among older adults. Methodology: We conducted published electronic search of 6 databases (Pubmed, ScienceDirect, CINAHL, SocINDEX, Scopus, Psychology and Behavioural Sciences Collection) and grey literature from 1990 until 2018. Two levels of screening were done; data extraction and quality appraisal were conducted for eligible articles. Quality of studies were evaluated using The Newcastle-Ottawa Scale tool. Results: After two levels of screening, we identified ten articles out of 5304 potentially relevant studies. Out of these ten studies, two adopted chronic pain, four adopted pain, two adopted low back pain and two adopted knee pain as predictors. Four studies assessed outcomes using questionnaires and objective measurements, four assessed using questionnaires and two assessed using objective measurements. In all included studies, pain was associated with worsening of physical function. However, after adjusting for potential confounders, three studies lost significant association and examples of the potential confounders adjusted were lower extremity function and executive function. Conclusion: Overall, all ten studies reported worsening of physical function in the presence of pain among older adults. Since the association of three studies become not significant after adjusting for potential confounders, we postulate that improvement in these modifiable factors could reduce the risk of worsening physical function among older adults suffering from pain.

Growth Performance and Feed Utilization of Red Tilapia Hybrid (*Oreochromis niloticus* x *O. mossambicus*) at Varying Protein Levels

Darlene Pearl D. Saballo, Miriam P. de Vera

University of the Philippines manila

To evaluate the kinds of tilapia feeds are cost-effective for tilapia aquaculture, the study investigated the effects of four dietary protein levels at 15%, 25%, 35% and 45% crude protein (CP) on the growth performance and feed utilization of the red tilapia hybrid (*Oreochromis niloticus* x *O. mossambicus*). A three-month dietary experiment was conducted wherein tilapia fry were fed three times a day with feeds administered at 10% their body weight. Aside from final body weights and total lengths, the following parameters for growth performance and feed utilization were calculated: weight gain (WG), specific growth rate (SGR), relative growth rate (RGR), Fulton's condition factor (CF), feed conversion ratio (FCR) and protein efficiency ratio (PER). Statistical analyses revealed that the measures for growth performance did not vary significantly among fish given the 25%, 35% and 45% CP diets, wherein RGR and SGR values were at least twice as much as those obtained for fish given the 15% CP diet. The latter had the highest mean FCR and PER values, at 10.0 and 2.0, respectively, indicating the lowest fish body mass yield among the four test groups. The relatively low FCR and PER values at maximum means of 2.5 and 1.25, respectively, indicate high utilization of protein for growth among fish given the 35% and 45% CP diets. These two protein levels in the fish diet are thus recommended for cost-effective feeds leading to optimal growth.

The Antihypertensive Properties of *Moringa oleifera* Crude Leaf Extract in Epinephrine-treated Rats

Angelica Stephanie K. Munoz, Melissa Mari C. Maano, Miriam P. de Vera

University of the Philippines Manila

Among the plants reported to have antihypertensive properties is *Moringa oleifera*. The present study tested the blood pressure-lowering effects of the crude ethanolic leaf extracts on Sprague-Dawley rats administered with epinephrine. The same effects were also compared with those of a hypotensive drug, nifedipine. The experiment involved using a tail-cuff plethysmograph to measure the blood pressure of a test animal subcutaneously administered with epinephrine at a dose of 0.2 mg/kg body weight, as well as extracting blood for measurement of selected blood parameters at different time intervals. The data revealed that the ethanolic leaf extracts of *M. oleifera* given at a concentration of 462.5 mg/kg body weight in the test animal can regulate the following parameters to baseline values at about an hour following epinephrine administration, namely: blood pressure changes of 162 mm·Hg to 118 mm·Hg, hemoglobin content from 15.1 g/L to 14.08 g/L, hematocrit levels from 0.45 to 0.42, and erythrocyte count from $5.28 \times 10^{12}/L$ to $4.92 \times 10^{12}/L$. The antihypertensive effect of the crude extract is attributed to the presence of glycosides which have been described in previous literature.

Generalized Structural Equation Modelling: Decision of transvestite to have HIV/AIDS Screening Test

Zita Atzmardina

IDI

Regulation in Indonesia defines gender into only two types, female and male, as interpreted in Marital Law and, such rules like identification card, in Population Administration Law. Shemale or transvestite is part of LGBT which is known as transgender or transsexual. Transvestites or shemales are usually discriminated. Their behavior is risky to be a contagious agent that can be prevented by having early detection. This study observes models of transvestite behavior in deciding to have HIV/AIDS screening test at Palembang, Pontianak, Samarinda and Makassar in 2013. The design was cross sectional. GSEM analysis result indicates that predisposing factor influences decision to have HIV/AIDS test on shemales (path coefficient = 0.61). Role of health officer effects knowledge of shemales (path coefficient = 1.1) and it has prominent impact on determination to have HIV/AIDS test on shemales (path coefficient = 3.5). Therefore, socialization by health officer or field trainer is crucial on determining HIV/AIDS test.

Efficiency of Chelating Agent from Tofu Pulp as Bio-Adsorbent for Chromium Ion in Textile Waste

Anak Agung Ngurah Agung Pradnya Iswara Wirawan

Faculty of Medicine and Health Sciences of Warmadewa University

The purpose of this research is to know the efficiency of absorption capacity of bio-adsorbent of tofu pulp to chromium ion concentration in textile waste and to know the result of textile waste quality test on each bio-adsorbent mass of tofu pulp. This research is an experimental research with Randomized Complete Block Design method taking 4 treatments, with 1 group of negative control or P0 ie textile waste without treatment and 3 treatment groups P1, P2 and P3 were given treatment with bio-adsorbent mass of 0.625 gram, 1, 25 grams and 2.5 grams. The instrument used to measure the chromium ion that remaining in textile waste is AAS (Atomic Adsorption Spectroscopy). The result shows that the more mass of tofu pulp added to the textile waste, the more chromium ion absorbed, the chromium ion remaining indirectly less concentration. P3 is the best treatment with the remaining chromium ion content in the textile waste is 1.69 ppm and the calculation of efficiency is 15.92% and the quality test indicates the waste is odorless, very unsteady and not very concentrated.

Identification and Cytotoxic Test of Methanol Extract of Nyamplung Seed (*Calophyllum inophyllum* L.) as Chemopreventive Agent in Cancer Treatment

I Kadek Irwan Setiawan

Faculty of Medicine and Health Sciences of Warmadewa University

Nyamplung seed (*Calophyllum inophyllum* L.) has great potential to be a chemopreventive agent, from the preliminary phytochemical test it is known that nyamplung seeds contain flavonoids, triterpenoids and other antioxidant compounds that are thought to be utilized as chemopreventive agents. The aim of this research is to know the class of compound contained in nyamplung seed (*Calophyllum inophyllum* L.) so that it can be utilized as natural chemopreventive agent, to know the result of cytotoxic test of nyamplung seed (*Calophyllum inophyllum* L.) by Brine Shrimp Lethality Test (BSLT) method and know the simple way of processing seed nyamplung (*Calophyllum inophyllum* L.) as a chemopreventive agent in the treatment of cancer. This research is an experimental research with approach of Post Test-Only Control Group Design which take 4 treatment, that is 1 group of negative control (K-), that is by adding 0 ppm of nyamplung seed methanol extract, and 3 treatment group that is treatment 1 (P1) given treatment with concentration of 100 ppm, treatment 2 (P2) was given treatment with a concentration of 500 ppm and treatment 3 (P3) was given treatment with a concentration of 1000 ppm. The results showed that the content of the compounds contained in the extract methanol seed nyamplung is flavonoids, steroids, triterpenoids, tannins and essential oils. The result of cytotoxic test showed that the value of LC₅₀ nyamplung seeds was 501,1872 ppm which means toxic and can be used as cancer chemopreventive agent by consuming instantly or dried.

Understanding Elder Abuse and Neglect in Malaysia: A qualitative inquiry from the perspective of policy maker

Calyn Tan Jen Ai, DrPH candidate

Department of Social and Preventive Medicine, University of Malaya

Introduction: The rapid change of the world's demographic to an ageing population has brought to the forefront issues and challenges faced by older adults. Elder Abuse and Neglect (EAN) is a significant public health and human rights issue that affects older adults globally; worldwide, it affects 1 in 24 older adults and 1 in 10 older adults in Malaysia. Although these numbers are likely an underestimation, EAN remains very much hidden and relatively unexplored in Malaysia, particularly how it fares on the policy setting agenda. This study was conducted to evaluate and identify gaps in health policies related to EAN in Malaysia. Methods: A qualitative study design was employed with in-depth interviews conducted among relevant policy makers. Semi-structured interview guide was used to obtain their views and perceptions on issues surrounding health policies related to Elder Abuse and Neglect in Malaysia. Results: In Malaysia, Elder Abuse and Neglect remains a low priority in the policy setting agenda, especially when there is competing needs from other health priorities given the scarcity of resources. Negative perception on ageing, stigma, lack of awareness and political climate are common themes that emerged on barriers. Conclusion: Malaysia is expected to be an aged nation by 2030. As we prepare for this demographic shift, the findings and recommendations of this study would be beneficial in addressing the issues of Elder Abuse and Neglect, with regards to policy-making.

Cervical cancer screening: Acceptability & Feasibility of self-sampling for HPV- DNA testing by

Tin Tin Su , Yut-Lin Wong, Si Lay Khaing, Karen Morgan

University of Malaya; Perdana University, Malaysia/Royal College of Surgeons in Ireland

This paper explored the acceptability of self-sampling for HPV-DNA testing among Malaysian women, and its feasibility to be implemented. In-depth interviews (IDI) were conducted on acceptability with 24 married women, who were purposively sampled. Feasibility of self-sampling for HPV-DNA testing was explored with 14 key informants among health providers and related stakeholders in the public and private sectors. The interviews were digitally recorded, transcribed verbatim, managed and analyzed using the NVIVO Version 9. Overall acceptability among the women was good. Those who were amenable to self- sampling cited privacy, less embarrassment, more in control (pain/comfort), time-saving as advantages over Pap smear test. Yet, self-efficacy is the main concern, followed by cost and possible trauma/lacerations. Generally, majority of key informants felt that HPV-DNA testing by using self-sampling kit has the potential to overcome current constraints facing both providers and users. Healthcare professionals in the public sector, in particular, were supportive that this new approach. However, there should be training for women to use the self-sampling kit accurately. The cost of self-sampling kit and laboratory test would be a challenge as the latter is three to four times more expensive than Pap test. However, local production of test kit would reduce the cost. Availability of trained laboratory technicians would be an issue, especially in public health care facilities. Our findings concluded that HPV-DNA testing of vaginal self-collected samples as an alternative approach for cervical cancer early detection in Malaysia is both acceptable by women and viewed as feasible by health care professionals.

Insights from the National Diabetes Registry: User Satisfaction

Arunah Chandran, Ismawati Ismail, Feisul Idzwan Mustapha

Ministry of Health Malaysia

National Diabetes Registry (NDR) is a web-based application to register diabetes patients in Malaysia that is used in all Ministry of Health (MOH) health clinics and selected hospitals. This study examined client satisfaction towards NDR usage. This cross sectional study was conducted in October 2017 amongst MOH staff. An online questionnaire was administered via announcements on NDR. Participation was voluntary. Of the 1990 active NDR users in 2017, 207 (10.4%) completed the questionnaire. Of these, 53.1% were males, majority (77.8%) were between the ages of 31-50 years and 70.0% were nurses and assistant medical officers. Majority (87.9%) found NDR easy to understand; 83.5% described NDR as user friendly, 63.8% agreed and strongly agreed that NDR usage reduces the workload of monitoring diabetes service delivery. Although 57.9% of the users agreed and strongly agreed that they received adequate training for NDR, 38.8% disagreed or strongly disagreed. Overall, users expressed high satisfaction in NDR usage. However, the focus on training of NDR users' needs to be strengthened. The high turnover rate of the staff in health facilities, inadequate number of computers and poor connectivity are amongst the challenges faced by NDR users and system administrators. In the absence of electronic health records, a disease registry plays a critical role to improve chronic care management at an individual and population level. User satisfaction is important to sustain NDR in the long term and this study results provides feedback on how NDR can offer value to current and future users.

Linking women and family to health facilities through community mobilisation: An end-of-project evaluation in Ethiopia

Ding, Yan, Yan, Fei, Liang, Ji, Jiang, Hong, Yang, Xiaoguang, Wang, Wei, Qian, Xu

Fudan Global Health Institute, School of Public Health, Fudan University

Introduction: Many Ethiopians do not utilize reproductive, maternal, new-born and child health (RMNCH) services even when services are available for free. One-targeted output of a pilot project in Ethiopia was increasing awareness and linking women and family to health facilities through community mobilising activities built upon the foundation of Ethiopian Government's successful Health Extension Programme and Health Development Army (HDA) programme. This study aimed to identify good practices and reflect on lessons learned. Methods: Six interviews and 12 focus group discussions were conducted among key informants from health authorities at provincial and district level, project fieldworkers, health providers at villages (HEWs) and towns (midwives), community health volunteers (HDA), local women and religious leaders. Data were collected in June 2017. Results: A standard referral system among community health providers and volunteers have been developed and strengthened. HDA were mobilized to identify women for RMNCH services and reported to HEWs with coaching from project organized meetings. HEWs claimed to be more confident in organizing community health education activities as HDA mobilized women's participation, and the project motivated midwives' attendance who provided on-site services. Health authorities, midwives and project field workers claimed the increase of RMNCH services utilization due to community mobilization. Religious leaders and local women spoke highly of community mobilization activities and shared examples of utilizing RMNCH services. Conclusion: To link communities and health service providers through community mobilizers is helpful in raising awareness in utilizing RMNCH services. In the context of Ethiopia, HDA and HEWs are the right mobilizers.

THE EFFECTIVENESS OF PRE-PREGNANCY CARE CAMPAIGN AMONG MARRIED WOMEN AND MEN IN KUALA LANGAT

Say Ying Tan, Afif Jazimin Adienuar, Deik Roy Chuan, Mas Ayu Said, Nisa Sahira Yahya, Ravitha Ravi, Rozita Ishak, Wan Nur Amani Wan Hussin, Zaitul Ilham Saadin, Siti Sabariah

Department of Social and Preventive Medicine, Faculty of Medicine, University of Malaya; Ministry of Health, Malaysia

Introduction: Pre-pregnancy care has emerged as an important component of prenatal care in Malaysia. Despite this, lack of awareness remains a barrier to participation from married couples. Objective: This study explores the level of knowledge of the married women and men in Kuala Langat, Selangor on pre-pregnancy care and evaluates the effectiveness of a health education programme on increasing their level of knowledge on pre-pregnancy care. Methodology: Pre- and post-interventional study was conducted at Pantai Morib. Activities included an interactive session of health education with a 40-item questionnaire given before and after the health education. Paired t-test was used to measure the level of knowledge pre and post-intervention. Result: The respondents comprised of 83 participants, of which 62 (74.7%) were women. Prior to intervention, the mean score of knowledge for women (16.69, SD=6.14) was higher than men (12.14, SD=6.14); $p=0.003$. There was a significant improvement in the overall score of the participants for pre- (mean=15.54, SD=6.26) and post-intervention (mean=22.52, SD=4.25); $p<0.001$. After intervention, both women (mean=22.53, SD=4.74) and men (mean=22.48, SD=2.36) achieved comparable mean scores ($p=0.96$). Evaluation of results suggested that the intervention was successful due to the customized, personalized and interactive consultation between the information providers and the participants. The participants provided positive feedback on the comprehensiveness of the information delivered. The education materials were described as simple and easy to understand. Conclusion: There is a lack of awareness of pre-pregnancy care in the general population. Interactive health discussion presents as a promising tool to address this problem.

Building Momentum and Training Leaders Remotely: A Compelling Model From a State-wide Student Advocacy Initiative for Increased Collaboration Amongst the Global Health Community

Jacqueline Pei

UCLA.

Background: The UC Global Health Institute (UCGHI) and advocacy firm Kyle House Group developed a California-wide global health advocacy program encouraging student participation in the federal budget process and promoting interest in global health careers. The first cohort ran from March to November 2017, consisting of 32 students from disciplines including undergraduate, law, and medicine; 8 faculty mentors; and a Director representing 10 UC Campuses. Notable accomplishments included: 1-3 community engagement events per campus; a letter writing campaign with 3787 signatories and 108 faculty supporters, delivered in meetings to 14 Members of Congress and Senator Kamala Harris and mailed to remaining California legislatures; and 13 published OpEds. Methods: Experts hosted bi-weekly online meetings to equip students with relevant knowledge. Interns participated in cross-campus committees to facilitate letter writing campaigns, produce advocacy training materials, and publish OpEds. Campus-based teams led community events, and met with legislators and faculty mentors. Program activities were adjusted in real-time based on monthly surveys soliciting student feedback. Findings: Satisfaction/Engagement: 73% reported high satisfaction, with 89% retention. Satisfaction, retention, and engagement were each positively correlated with leadership involvement and contact with faculty mentors. Career Impact: More students considered careers and/or advanced degrees in advocacy or global health upon program completion than pre-program. Students felt that working effectively in remote teams will benefit them in future global health and advocacy endeavours. Knowledge/Skill Acquisition: Compared to pre-participation levels, students reported significantly increased knowledge of advocacy strategies and legislative budget processes, and 20% more students felt “extremely comfortable” talking to legislators post-participation. (93 words). Interpretation: UCGHI AI’s pilot program suggests a successful model of advocacy and remote global health engagement that can be duplicated in most settings. Despite the challenges in encouraging active participation while geographically dispersed, most students remained engaged as evidenced by high retention and satisfaction rates, increased global health/advocacy knowledge and skills, and perceived career impact. Program productivity also highlights the success of meeting remotely combined with frequent assessment and modification. Granting students agency in shaping the program led to modern advocacy strategies that may prove worthwhile in a digital culture.

STUDENT POSTER CONTEST

Research on the effects of private health regulation

QIAN Wenji, XIE Yu, DONG Lijia , HUANG Jiayan

*School of Public Health, Fudan University; Key Lab of Health Technology Assessment,
National Health Commission*

How to meet the demand for basic health service for whole population is still a big challenge for China health system. An initiative is to encourage the civil capital to invest the health service delivery. Document No. 58 issued by the General Office of the State Council in the year 2010 was such a policy which aimed to induce the more civil capital into China health system through developing an equal competition market for civil capital. This paper attempts to analyze the impact of this Document No. 58 on development of the private hospital after 2010. The attachment is the student poster of the abstract.

Cost Effectiveness Analysis of Rapid Diagnostic Tests on Malaria Diagnosis: Based on a Systematic Review

Xiaoxiao Ling, Jiajie Jin, Wenji Qian, Jun Cao, Yu Xie, Jiayan Huang

School of Public Health, Fudan University;

Key Laboratory of Health Technology Assessment, National Health Commission/Institute for Global Health, University College London, National Health Commission, Jiangsu Institute of Parasitic Diseases, Institute of Medical Information, Chinese Academy of Medical Science & Peking Union Medical College

Rapid diagnostic test (RDT) is a quick diagnostic method to detect specific antigens in a blood drop of those infected with malaria. Few studies evaluated the economic value of this technology, although it has been approved the high diagnostic value. This study attempted to analyze the economic value of rapid diagnostic test (RDT) on diagnosing the malaria based on the existing evidences. The attachment is student poster of the abstract.

Quality of Life Post-Stroke Patient: A Study with WHOQOL-BREF Questioner

Defi Amalia Setia Ningrum, Santi Martini

Department of Epidemiology, Faculty of Public Health, Universitas Indonesia;

Department of Epidemiology, Faculty of Public Health, Universitas Airlangga

Background: Stroke is the number one disease in the world that causes disability. Functional disorder and social and psychological disturbances due to stroke affect aspects of health-related quality of life. The objectives of this study are measuring the internal consistency of The WHOQOL BREF, evaluating QoL post stroke patients and determining which of these factors influence QoL most. Method: Analytic observational with cross-sectional study conducted at Neurology Department, Hajj Public Hospital Surabaya. 52 patients with stroke less than two years since the first attack were examined in this study. The WHOQOL-BREF questioner was used to assess the QoL. Cronbach's alpha (-C) test was needed to assessing the internal consistency of WHOQOL-BREF questioner. Comparing difference between patients's characteristic and their QoL were examined by t-independent test and ANOVA. Linear multiple regression used to assess the influencing factors of QoL. Result: Internal consistency was good and adequate for all 26 questions of WHOQOL-BREF. The highest and the lowest mean score of WHOQOL-BREF were found for Psychological health and Perception of health. Interaction of QoL in social relationship was closely related to age and participation of medical rehabilitation. Lower education level was associated with low perception of health and was the most influential factor of QoL in post stroke patients. Conclusion: This findings confirmed that WHOQOL-BREF is a reliable instrument in measuring QoL post stroke patients. Medical rehabilitation improved greater score in social relationship. Perception of health, physical and psychological health had influenced by educational level.

Factors Affecting Adherence to Infant Immunization

Ji Young B. Lee , Susanna Martha Ibe , Joybee C. Javier, Kim Gabrielle Lee , Christian Edward Macabali, Alyssa Simone Leuenberger, Ma. Loubert Lozano

The University of the Philippines; Manila-College of Nursing

This year only 60% immunization coverage has been achieved by the Philippines in contrast to the 85% target coverage. The study aims to assess the extent of adherence of parents to infant (6-12 months) immunization in a rural setting in the country. A descriptive-correlational research design was used. The researchers developed a questionnaire on knowledge, beliefs, and practices on immunization. 171 parents were selected using purposive sampling. The respondents correctly answered majority of the statements that tackle their knowledge about vaccines. They believe that immunization is beneficial to the general well-being of the children. Most of the respondents practice timely and complete immunization for their children, except for MMR vaccine. It is showed that as infant gets older the less timely and complete their immunization. Belief showed a significant association with practice. Only age showed that older the parents, the knowledgeable they are. Practice, marital status and birth order have a significant effect on the timeliness and completeness of immunization. Other factors were not found any significant association with beliefs, knowledge and practice. There is a possible recall bias due to vaccine scare that can a limitation of the study. These research findings suggest that comprehensive national and local efforts must be continued to improve the knowledge, beliefs, and practices of parents on infant immunization.

Attracting medical students to global health

Sheerah Haytham

Osaka University

In the past, global health was considered an area largely for postgraduate study. Public and global health studies are rapidly increasing in importance nowadays, even for students at early stages in their education. Thus, many experts consider that epidemiology should be taught at the high-school level. Corresponding with experts comments, medical student's interest and participation have truly accelerated in recent years. However, to achieve the target, obstacles are still remaining. The purpose of this study is to describe the importance of introducing Global health education in Japanese medical school's curriculum to assess students perceived needs. To study the previous models for introducing Global health in other Japanese and overseas universities, we have collected and summarized the literatures using the terms Global health, research method, process, training, scholarly project, medical student, medical education, and problem based learning in PubMed and Google scholar. Learning about Global health epidemiology allows students to participate in decisions concerning public health policy as engaged clinicians and citizens. It further improves their understanding of the scientific methods, and helps them acquire and improve critical thinking and problem-solving skills. Increasing medical students' exposure to global health issues and integrating global health teaching into medical school curricula are two urgent processes that we must encourage. Moreover, medical schools must take steps to ensure that international clinical rotations become a routine part of medical education. Finally, it is necessary to collect more quantitative data on the place of global health in medical education.

Assessment of health care workers' implementation of the routine HIV 'opt- out' testing policy in antenatal care clinics in Machinga district, Malawi.

Elizabeth Deborah Katunga

College of Medicine, Malawi; Ministry of Health of Malawi

In 2003, as a response to the high rate of mother-to-child-transmission (MTCT) of HIV, the government of Malawi mandated routine HIV testing with an 'opt-out' approach for all pregnant women within the Prevention of Mother to Child Transmission of HIV (PMTCT) services. However, implementation challenges exist within the policy. This was a cross-sectional study utilizing qualitative research methods that took place in 3 antenatal care (ANC) clinics in Machinga district, Malawi. Data was collected through 12 semi-structured in-depth interviews (IDIs) and 9 non participatory observation sessions. Data was analyzed using thematic analysis approach. Majority of the healthcare workers were aware of the HIV 'opt-out' testing policy. They were also able to outline what needs to be done in case a woman refuses an HIV test (according to guidelines). However, the non-participatory observations showed that pregnant women were not being given the chance to make an informed choice. Health care workers' opinion was that pregnant women should not be given a chance to opt-out of HIV testing considering the benefits to both the woman and her baby. They appealed that government should make HIV testing for pregnant women mandatory. Despite being knowledgeable about the HIV 'opt-out' testing policy for pregnant women, health care workers do not follow it due to factors like: lack of supervision, in adequate HIV testing rooms, perceived benefits of HIV testing, and wanting to reach other targets such as the 90-90-90 target. All in all, health care workers prefer mandatory HIV testing for pregnant women.

Let's Grow Healthy: Garden Enhanced Nutrition Education for Elementary School Children

Frida Endinjok

California State University, Northridge

School gardens can provide a learning environment that enhances children's knowledge and acceptance of healthy foods. The Garden-Enhanced Nutrition Education program, "Let's Grow Healthy," was developed to promote nutrition education in Los Angeles area disadvantaged public schools. The program consists of weekly hands-on interactive gardening and nutrition classes for a five-week period. The classes took place in two elementary schools where first to fifth grade classes were selected to participate in the program. Since 2015, a total of 374 children have participated in the program. In order to assess the change in gardening and nutrition knowledge, pre-test and post-test surveys were given to the participants. The surveys were coded and analyzed in order to compare the difference between pre-test and post-test t-test mean value scores. Significant improvement was demonstrated in second, third, and fifth-grade classes with the most change seen in 5th grade, as 92% of students at post-test, correctly identified the food groups in My Plate (U.S. dietary guideline) with 44% of students improving ($t = -6.1$, $p = .021$). The results support the hypothesis that gardening classes can increase and improve children's gardening and nutrition knowledge. As well, qualitative data was collected from the principals to obtain feedback on the impact of the gardening classes in the classrooms. This reinforces the importance of school gardens where children can grow and learn more about healthy food. Let's Grow Healthy is expanding to more schools, so more children can benefit from this experience and improve their nutrition knowledge.

Developing a State-Wide Student Advocacy Program

Sarah Lawrence

UCLA

A Holistic Approach to Healthcare in Maclovio Rojas, Mexico

Megan Ren, Jason Zhang, Rishi Makkar, Nicolas Gonzalez, Mili Patel

University of California, Los Angeles

Fellowship for International Service and Health (FISH) is a student-run non-profit organization at UCLA that focuses on improving access to healthcare and educational opportunities in Maclovio Rojas, Mexico. Over the past 12 years, FISH has organized primary care clinics, health fairs, and English classes in Maclovio Rojas's community centre by partnering with local physicians and community leaders. After conducting a comprehensive needs assessment in 2016, changes have been made to FISH's health model and English curriculum to promote a more holistic approach to healthcare. The three tenets of FISH's new model include biological health, environmental awareness, and professional skills development. From our newly-started focus groups, we identified a lack of health education as a need within the community; thus, we launched an online database where residents of Maclovio Rojas can have easy access to health education and other skill-building software. We have also improved our English lessons by creating structured lesson plans and interactive classroom presentations based off of reputable ESL workbooks. We began to incorporate Duolingo software and environmental health activities within our lessons to promote environmental awareness and professional skills development. With our new English lesson model, we saw a 16% average score increase in pre- and post- test performance and increased knowledge of environmental health determinants. The combination of education, local physician partnerships, technology-facilitated English lessons, and lessons on environmental health has allowed us to expand our goals to more effectively serve the dynamic needs of the Maclovio Rojas community.

Child stunting in Uganda: An Analysis of Sanitation Factors

Stephanie Ly

UCLA

Background: According to WHO, 23% of children globally are stunted. Stunting is diagnosed at -2 height- for-age z-scores and linked to lifelong consequences including cognitive impairment, educational deficits, and lower wages. While stunting is classified as malnutrition, nutritional interventions fail to resolve the condition. Emerging factors like intestinal malabsorption linked to inadequate sanitation are being explored. Objective: We analyzed nationally representative data in Uganda to explore sanitation factors in child stunting. Methods: We used the Uganda Demographic & Health Survey 2016 to examine child stunting status with drinking water source, toilet type, and socioeconomics using descriptive and Pearson chi-square analyses in STATA. Results: We found that 28.7% of children in Uganda were stunted with 9.1% severely stunted. Male children had higher proportions of stunting (31.1%) and severe stunting (10.7%) compared to females (26.2% and 7.5%, respectively). Using WHO classifications, we found that 22.8% and 34.3% of stunted and non-stunted children had access to improved toilet sources. Overall water access was higher with 73.5% of stunted and 78.3% of non-stunted children having access to improved drinking water sources. We observed differences in stunting status with potential covariates including wealth quintile, mother's education, mother's stunting status, and child's age 2 years or above. When we performed Pearson chi-square analyses, we find differences between stunting status with toilet type, drinking water source, child gender, household wealth, child age, mother's education level, and mother's stunting status. Conclusions: Differences in water and sanitation levels were found between stunted and non-stunted children. These summary statistics will be followed by multivariate regressions to examine associations.

Factors Associated To the Incidence of Pneumonia in Toddlers in Central Sulawesi, Southeast Sulawesi, Gorontalo, West Sumatera and West Kalimantan 2012

Dinda Nadia, Nurhayati Adnan Prihartono

Department of Epidemiology, Faculty of Public Health, University of Indonesia

Pneumonia is one of the biggest causes of death in children. Five provinces with the highest prevalence of pneumonia in Indonesia are Central Sulawesi, Southeast Sulawesi, Gorontalo, West Sumatera and West Kalimantan. The purpose of this study was to determine the factors associated to the incidence of pneumonia in toddlers in Central Sulawesi, Southeast Sulawesi, Gorontalo, West Sumatera and West Kalimantan in 2012. The study population was children aged 1 – 4 years that were included in the 2012 Indonesia Demographic and Health Survey. This study used a cross sectional design with a sample of 1,134 toddlers. A logistic regression was performed to analyze factors that predict the incidence of pneumonia. The results showed the incidence of pneumonia in toddlers was 12%. Multivariate analysis showed the factors that were significantly predicted the incidence of pneumonia in toddlers were vitamin A supplement ($p = 0.038$), low maternal education ($p = 0.001$) and household member smoking ($p = 0.016$). This study adds the evidence of factors within household that can be modified or eliminated to reduce the incidence of pneumonia among toddlers. Strengthening family approaches in controlling pneumonia risk factors should be done in the prevention of pneumonia.

Effect of Spirit of Universal Life (SOUL) Prevention and Healing Meditation on Blood Glucose Level in Patients with Type 2 Diabetes Mellitus: Case Study at Bali Royal Hospital, Bali

Anak Agung Diyananda Paramita, I Gusti Ayu Diah Febriyani Sidiartha, Made Sinta Sri Mahadewi, Kartika Sari, Ms, Ms, Ms, Mrs

Type 2 diabetes mellitus (T2DM) is a common chronic disease and also a major worldwide public health problem. A wide variety of lifestyle factors play an important role in the development of T2DM like stress. Psychological stress is being explored as a risk factor for chronic diseases, such as cardiovascular disease, arthritis and diabetes. Pathophysiological mechanisms that link stress with diabetes involve direct neuroendocrine effects, in which stress-associated hormones such as cortisol and adrenaline have regulatory effect on insulin release. Cortisol can cause glucose formation in peripheral tissues as well as in the liver. This condition causes increased blood glucose level in T2DM. The objective of this study was to assess the effectiveness of stress management by SOUL Prevention and Healing meditation to lower blood glucose level in T2DM patients. This study used a quasi-experiment with pretest and posttest design; the study sample comprised 16 volunteers who suffered from T2DM. This study was conducted in Bali Royal Hospital (BROS) for 2 months. Fasting blood samples were collected two times (pre-treatment and 2 months post treatment) and EEG used to assess brain wave pattern. The study results showed the difference of means between blood glucose level in the good compliance and inadequate compliance group with p value, $p < 0.05$ ($p = 0.031$). Blood glucose level was significantly reduce in T2DM patient who practice meditation with good compliance compare those who practice meditation with inadequate compliance. It is concluded that meditation can significantly lower blood glucose level in T2DM patients.

The Effects of Boat Engine Noise on the Hearing of Fishermen in Kedonganan Village, Bali

Nyoman Sitra Tresna Pagerartha, I Gusti Ayu Diah Febriyani Sidiartha, Anak Agung Ayu Sri Vemi Hendrayani, Kartika Sari, Agus Santosa, Mr, Ms, Ms, Mrs, Mr

Noise-induced hearing loss (NIHL) is the common occupational disease especially for fishermen who using boat for fishing. NIHL is a permanent hearing abnormality caused by prolonged exposure to loud noise. The first symptom is normally the inability to hear high- pitched sounds. The Regulation of Indonesian Ministry of Health 2016, mentioned the safe range of noise maximum is 88 dB with the maximum time of exposure is 4 hours. Meanwhile, the noise caused by boat engine is 77,64-97,8 dB. The objective of this study was to assess the risk factor of boat engine noise towards NIHL in fishermen. Audiometric examination was done to evaluate the samples with normal baseline, 25 dB. The study sample comprised 70 volunteers which divided within 2 groups (fisherman and 35 local resident-non fisherman). This study was conducted in Kedonganan Village, Bali. The study results showed that 77% (27 of 35) of fisherman is diagnosed as NIHL with working hour average is about $\pm 4,86$ hours and ± 16 years period of exposure. Group with non-fishermen showed two NIHL condition without any exposure from boat-engine ($p < 0.05$). It is concluded that the noise from boat engine can cause hearing loss. The fisherman should wear earplug or earmuff or headset to reduce the risk of noise induced hearing loss.

Assessment the Prevalence of Blood Born Transmittable Transfusion Infection (TTIs) and associated factor among Blood Donor Donate at Bahir Dar Blood Bank, Amhara Regional State North West Ethiopiaby

Mekonnen Mikru, Brumssa Daniel, BSC, MPH, PhD Fellow, MD, MPH

Introduction: Approximately 30% of the world's population or about 2 billion persons have serological evidence of either current or past infection with hepatitis B virus. In India total of 3.5% of the donor positive for HBV in Africa Ghana= HCV, HIV and HBV 4.4, 4.9 and 6.1% respectively among 3,402 donors, Ethiopia, problem is high. Study design: Descriptive study design was employed t from July 1,2016 - June 30,2018 Enter data by EPI-Info 3.5.2 clean data, Then SPSS 16.0 , statistics were used Both bivariate and multivariate analysis by logistic regression. Results: A Total of 5363 apparently healthy prospective blood donor age between 18 and 65 years mean + SD 22 + 10.24 years). 66% of donors were donate at mobile site and 93.2 were voluntary blood donors. Prevalence of HBV, HCV, HIV and Syphilis The overall prevalence of HBV, HCV, HIV and Syphilis was 3.7, 0.7, 0.76, 0.9 respectively Prevalence of HBV, HCV among Tigray and Amhara region from 2002-2003 at 578 donor were HBV, HCV 6.2, 1.7 respectively it's consists with this study age 23-27, mobile session donor, family replaced donor, being exposed for infections among them (HBV, HCV, Syphilis and HIV). Recommendations: The prevalence of HBV, HCV, Syphilis and HIV were high among age 23-27, civil servant, mobile session donor, family replaced donor, being exposed for co infections among them. Educational and motivational programs and mass community vaccination programs help in decreasing the infection. Pre-donation and post donation counseling, do self-exclusion and ensuring 100% voluntarily blood donor will be effective in decreasing of TTIS.

Analysis of Modifications of Thiol- Containing Serum Proteins by Immunoprecipitation/Mass Spectrometry

Xiaoying Sun

Laboratory of Protein Profiling and Functional Proteomics, Institute for Protein Research, Osaka University

Free-thiol(s) in proteins are susceptible to oxidation/modification, which may cause loss of function or an alteration in the structure. In past few years, the studies have shown that free-thiol versus an oxidized/modified form in human blood could reflect the physiological state, with respect to susceptibility to oxidative stress. Thiol-containing proteins are expected to be the biomarkers for oxidative stress which is related to aging process and the development of cardiovascular disease, cancer, etc. Our study shows Transthyretin (TTR) is the major protein which contains a reactive free thiol in human plasma, and it is considered to become a useful biomarker for oxidative stress. Our laboratory has recently succeeded in isolating the free-thiol form of TTR from human blood with one-step purification by the developed method, but for the modified forms of TTR, which are still tough to isolate and determine the structures. This study aims to analyze human's modified Transthyretin by further using Immunoprecipitation to separate it from a complex mixture which is obtained by present one-step separation process, and subsequently use MS to determine the structures. We are also interested in establishing the assay system to determine the quantity of free-thiol form and modified forms of Transthyretin , at the later experiment, more plasma from people and mice will be tested and examined in order to demonstrate if TTR molecule could be a potential biomarker of oxidative stress.

Women's experiences and views of episiotomy in vaginal delivery and the postpartum impacts

He Siyuan

School of Public health, Fudan University

Background: Episiotomy during childbirth is a global issue to women's health. Many countries remain high rates of episiotomy, especially in Asia and South America. The current Cochrane review about episiotomy noted that women's preferences were not reported. Objectives: This study aims to understand the experiences and feelings of postpartum women with episiotomy and explore the possible consequences of lateral episiotomy on maternal and child health. Methods: We conducted a qualitative study to explore the women's experience, views and health impacts after episiotomy. Results: 30 women and 12 health care providers in Shanghai were interviewed. Seven main themes and 26 subthemes were identified. Conclusion: There are many problems of episiotomy in clinical practice such as routine or expansive use, inadequate informed consent and unskilful suture. Also, timely postpartum education and consultation about episiotomy is deficient so that the women are unprepared for episiotomy and following health issues. Episiotomy should be better practiced, in addition, timely reproductive health services and education is needed.

Impacts of Sectoral Emissions in China and the Implications: Air Quality, Public Health, Crop Production, and Economic Costs

GU Yefu, YIM Hung Lam, Steve, Yang Yuanjian

Department of Geography and Resource Management, The Chinese University of Hong Kong, Hong Kong, China; Institute of Environment, Energy and Sustainability, The Chinese University of Hong Kong, China

China has experienced considerable economic losses from a severe deterioration in air quality. To solve this, a comprehensive understanding of the impacts and sources of air pollution is necessary. This study aimed to quantify the environmental and human health impacts of PM_{2.5} and O₃ pollution from the six major emission-producing sectors in China. We utilized a chemical transport model to simulate the air quality impacts engendered by sectoral emissions. The consequent impacts on public health and crop production, as well as the corresponding collateral economic costs, were quantified by concentration-response functions. The results show that the sectoral emissions in 2010 caused approximately 1,143,000 (95% CI: 168,000–1,796,000) premature mortalities and a 20,035 (95% CI: 6,776–32,166) Gg crop production loss. Of the six sectors, the industrial sector was the largest contributor of air pollution, accounting for 36% of the total impact on health, as well as a 41% of crop production loss due to O₃ exposure. The impacts attributable to sectoral emissions in China were estimated to cost ~267 (95%CI: 180–360) billion yuan (0.66% of the annual GDP). Our findings suggest an urgent need to reduce anthropogenic emissions in China, particularly those of the industrial sector. The varying characteristics of impact due to emissions of various sectors highlight the importance of evaluating co-benefits when formulating emission control policies.

Source contributions to surface ozone in China and the implication on public health

Wang Mengya, YIM Hung Lam, Steve, David C. Wong

Department of Geography and Resource Management, Chinese University of Hong Kong, Sha Tin, Hong Kong; Exposure Division, National Exposure Research Laboratory, US Environmental Protection Agency

Ambient air pollution has become one of the most severe environmental issues in China due to its rapid development of industrialization and urbanization accompanied by increasing anthropogenic emissions. Surface ozone (O₃) is considered as one of the most important air pollutants and has been reported to cause significant adverse effects on human health. To solve regional O₃ pollution problem, the source–receptor (S–R) relationships of surface O₃ was investigated to quantitatively estimating O₃ concentration in target regions attributable to their precursors (NO_x and VOC) as well as source regions. The major influential pathways from different chemical and physical processes were identified to indicate more effective emission control strategies. In addition, the source contributions to O₃ concentration from different source regions (provinces) and species was quantified to provide the most expeditious and cost-effective emission control strategies.

Barriers and facilitators of Focused Antenatal Care utilization in Mzimba South, Malawi: A qualitative study

Priscilla Funsani

Fudan University

Globally, WHO shifted from four antenatal care visits to eight contacts in promoting a good pregnancy experience for women. Promoting utilization of quality antenatal care has been a challenge in Malawi. Inadequate care during pregnancy has led to missed opportunity for identifying risk factors and often associated with poor pregnancy outcomes. To explore facilitators and barriers for pregnant women to utilize Focused Antenatal Care (FANC) in Mzimba South, Malawi and identifying gaps in improving antenatal care services. A descriptive exploratory qualitative design was adopted. Purposive sampling was used to recruit participants from two primary health centres in Mzimba South Malawi. Participants (n=30) included community midwife assistants, traditional leaders, husbands and women who used the services in FANC. In-depth interviews were audio recorded and transcribes were analyzed with the help of Nvivo11 software package. Framework approach was used to code transcribes based on the topic on barriers and facilitators. Two researchers worked together to revise and develop the emerging themes based on the topic area. Five Topics and 27 themes were identified in Table 1. Quality ANC can be achieved if barriers are removed in Mzimba South Malawi. Male involvement and community support, improved quality of care in health facilities and addressing the needs of disadvantaged women may improve ANC care and initiate the utilization of ANC services.

Impacts of anthropogenic environmental change on the health of Indigenous Australians: a holistic perspective demanding urgent action

Jocelyn G Dracakis

Sydney School of Public Health, University of Sydney

For at least 60,000 years, Australian Aboriginal and Torres Strait Islander (ATSI) peoples have lived in harmonious co-existence with nature and adapted to biophysical change. Now, urban, rural & remote ATSI communities are facing the harsh impacts of an unprecedented rate of anthropogenic environmental change on their daily lives, threatening to exacerbate existing health inequalities. Particular vulnerability and low adaptive capacity stem from socioeconomic factors, impacts of colonialism, and the strong interdependence between the experiences of wellbeing of the individual and that of the land ('country'). Although broad-ranging impacts of climate change on indigenous health have been identified, this has yet to be met with any specific policy response. This literature review summarises the broad-ranging known and predicted impacts of climate change and environmental damage on indigenous health and evaluates the appropriateness of current climate mitigation and adaptation strategies to the health and well-being of ATSI people. Key recommendations include development of a holistic national ATSI-specific climate strategy, a two-toolkit approach recognising traditional ecological knowledge, action-based research into capacity-building and stronger protective legislative frameworks.

Larvicidal Activity of The Rind Essential Oils of *Citrus microcarpa* Bunge and *Citrus maxima* (Burm.) Merr. on *Aedes aegypti* L.

Emma Czarinah M. Magnaye, Paolo L. Medina

University of the Philippines Manila

Controlling mosquitoes at the larval stage is an effective measure to prevent mosquito-borne diseases. Chemical larvicides are known to raise several environmental and public health concerns; thus, non-toxic and biodegradable plant-based larvicidal are becoming popular. The present study tested the larvicidal activity of *Citrus microcarpa* (calamansi) and *Citrus maxima* (suha) rinds against the third-instar larvae of *Aedes aegypti* by measuring their LC50 and LC90. Simple distillation was employed for the extraction of the essential oils. Larvicidal bioassays showed that *Citrus maxima* has a stronger larvicidal effect (LC50 of 26.13 ppm and LC90 of 49.34 ppm) than *Citrus microcarpa* (LC50 of 53.10 ppm and LC90 of 81.381 ppm). The percentage compositions of their bioactive substances, analyzed by gas chromatography, revealed limonene to be the dominant component in both essential oils, though higher in *Citrus maxima* (95.5%) than *Citrus microcarpa* (91.6%). The stronger larvicidal property of *Citrus maxima* can be attributed to the higher limonene content in its essential oil compared to *Citrus microcarpa*.

Factors associated with attitudes towards colonoscopy: a population-based study

Junjie Huang, Peter Choi, Maggie Chan, Jingxuan Wang, Colette Leung, Jason Huang, Vincent CH Chung, Martin CS Wong

JC School of Public Health, Chinese University of Hong Kong

Background: Colorectal cancer (CRC) screening by colonoscopy has been associated with a reduction of CRC-related mortality, yet the screening participation rate of the general population was low. The perception of colonoscopy amongst the general public is important in affecting screening uptake. However, few studies have identified target groups who expressed negative perceptions towards screening colonoscopy. We aimed to examine the association between demographic factors and attitudes in a representative Chinese population. Methods: We conducted a population-based telephone survey on a total of 1,200 Chinese aged 60-70 years old using simple random sampling. We collected information on their socio-economic factors (age, gender, education, and household monthly income) and perceptions (accuracy, effectiveness, and embarrassment) of screening colonoscopy. We calculated the odds ratios (ORs) and 95% confidence intervals (CIs) using a binary logistic regression model. Results: From univariate analysis, we found that female individuals (OR=3.03, 95% CI=1.95-4.71, referent: male) were associated with a higher level of perceived embarrassment. However, Individuals with higher monthly household income (10,001-20,000 HK\$: OR=0.27, 95% CI=0.16-0.44; >20,000 HK\$: OR=0.28, 95% CI= 0.16-0.50; referent=0-10,000 HK\$) were associated with a lower perceived level of embarrassment. After adjustment for potential confounders, these associations remained statistically significant (female: OR=2.84, 95% CI=1.76-4.59, referent=male; 10,001-20,000 HK\$: OR= 0.27, 95% CI=0.16-0.46, referent=0-10,000 HK\$; >20,000 HK\$: OR=0.30, 95% CI=0.17-0.55, referent=0-10,000 HK\$). Conclusions: We found that female individuals or those with lower monthly household income had a higher level of perceived embarrassment towards screening colonoscopy. The underlying reasons remain speculative and warrant future studies to explore potential explanations.

Factors associated with perceived behavioral control towards colorectal cancer screening: a population-based study of 1,200 individuals

Junjie Huang, Veeleah Lok, Peter Choi, Jingxuan Wang, Colette Leung, Jason Huang, Vincent CH Chung, Martin CS Wong

JC School of Public Health, Chinese University of Hong Kong

Background: Colorectal cancer (CRC) screening has been proven effective to reduce CRC mortality and morbidity, yet the participation rate is suboptimal in various countries around the globe. Perceived behavioural control is one of the influencing factors of health behaviour based on the theory of planned behaviour. This study evaluated the relationship between perceived behavioural control towards CRC screening and sociodemographic factors in a Chinese population. Methods: A population-based telephone survey by simple random sampling was conducted in 2017 among 1,200 residents aged between 60-70 years old in Hong Kong. The data on sociodemographic factors (age, gender, education, and household monthly income) and perceived behavioural control (feasibility and autonomy) of CRC screening were collected. A binary logistic regression was conducted to identify the sociodemographic factors associated with the perceived behavioural control. Results: Individuals with higher monthly income level of HK\$10,001-20,000 (adjusted odds ratio [AOR] = 0.53, 95% C.I. =0.35-0.82; referent <HK\$10,000) and lower education level (vs. secondary education: AOR=0.67, 95% C.I. =0.47-0.96; vs. tertiary education: AOR=0.32, 95% C.I. =0.13-0.76; referent: primary education or below) were associated lower perceived feasibility control of CRC screening. After adjustment for potential confounders, these associations remained significant (income: 10,001-20,000 HK\$: AOR=0.48, 95% C.I. = 0.31-0.74; lower education level [vs. secondary education: AOR=0.56, 95% C.I. =0.37-0.85; vs. tertiary education: AOR=0.26, 95% C.I. =0.09-0.77]). Conclusions: This study found that elderly people with a higher monthly income level of 10,001-20,000 HK\$ and lower education level were associated with lower behavioural control of CRC screening in terms of feasibility. The underlying reasons for these findings will need to be further explored.

Effect of Health Literacy and Exercise Interventions on Clinical and Behavioral Outcomes in Chinese Patients with Type 2 Diabetes: A Randomized Trial

Lei Wang, Xiaona Liu, Hong Fang, Qinghua Xia, Rui Li, Yingyao Chen, Yujie Yan, Peng Zhou, Baodong Yao, Yu Jiang, Russell L Rothman, Wanghong Xu

Department of Epidemiology, School of Public Health; Key Laboratory of Public Health Safety; Ministry of Education; Fudan University, Shanghai; Department of Chronic Diseases Control, Center for Disease Prevention and Control of Minhang district, Shanghai, Department of Diabetes Control, Shanghai Municipal Center for Disease Prevention and Control, Shanghai; Department of Hospital Management, School of Public Health, Key Laboratory of Health Technology Assessment; Ministry of Health, Fudan; Department of Internal Medicine and Pediatrics and Center for Health Services Research, Vanderbilt University Medical Center, Nashville, Tennessee.

Objectives: To evaluate the effectiveness of health literacy, exercise and comprehensive interventions on multiple clinical and behavioural outcomes among Chinese patients with type 2 diabetes (T2DM). **Methods:** In this cluster randomized controlled trial, 799 T2DM patients were recruited from eight communities in Shanghai, China, and randomized into three intervention groups and one control group. After baseline survey and medical check-up, a one-year health literacy intervention, exercise intervention or both were conducted. Generalized Estimated Equation was used to evaluate the effect of interventions at the 3-, 6-, and 12-month follow-up survey. **Results:** Health literacy, exercise, and comprehensive intervention groups had a significant lower HbA1c at each survey relative to baseline level, whereas the control group had 0.28 increase in HbA1c at the 12-month survey ($p=0.02$). In exercise group, a significant decreased systolic blood pressure (SBP) ($\beta=-1.66$, $p=0.04$) and increased intensity of exercise ($p=0.003$) were observed at the 12-month survey, and an average 0.66 mmol/L decrease in TG was found among those with abnormal TG level (>1.7 mmol/L) ($p<0.001$). While LDL increased in health literacy group ($\beta=0.55$, $p<0.0001$) and exercise group ($\beta=0.16$, $p=0.04$), HDLC increased in all four groups, particularly in health literacy and control groups. Self-efficacy was significantly improved in comprehensive group compared with control group at the 6- and 12-month surveys ($p<0.05$). **Conclusions:** Both health literacy and exercise-focused interventions may decrease HbA1c and SBP, and increase HDLC level in T2DM patients. Exercise-focused intervention appears more effective to improve TG and intensity of exercise, while comprehensive intervention tend to improve self-efficacy.

Physical activity and glycemic control status in Chinese patients with type 2 diabetes: a second analysis based on a randomized controlled trial

Mengge Han , Xiaona Liu, Hong Fang , Qinghua Xia, Yingyao Chen, Peng Zhou, Yujie Yan , Junling Gao , Baodong Yao , Russell Rothman, Wanghong Xu

Fudan University; Shanghai Minhang Center for Disease Control and Prevention; Shanghai Changning Center for Disease Control and Prevention, Department of Medicine, Vanderbilt University Medical Center, Nashville, TN, USA

Objectives: To evaluate the effectiveness of physical activity on glycemic control in Chinese patients with type 2 diabetes (T2DM). **Methods:** 799 T2DM patients from 8 communities of Shanghai, were included in a cluster-randomized controlled trial, and randomized into one control arm and three intervention arms receiving 1-year intervention of health literacy, exercise or both. Physical activity (PA) was measured using the GPAQ at baseline, 12- and 24-month follow-up and quantified as metabolic equivalent (Met). All subjects were classified by tertiles of PA changes (Δ PA) from baseline to 12-month and from 12- to 24-month. ANOVA was used to compare improvement in HbA1c, and GLM was applied to evaluate the associations after adjusting for potential confounders. **Results:** PA level was observed to increase in exercise group at the 12-month but decrease at the 24- month survey ($p < 0.01$), whereas it decreased in the health literacy group ($p < 0.01$) and remained stable subsequently, and remained unchanged in comprehensive group at 12- month but increased at 24-month survey. The decreases in HbA1c from baseline to 12- month differed significantly across three groups and was significant in the middle tertile group (ls-mean of -0.30% and 95%CI of -0.58% ~ -0.02%), but not for those from 12- to 24-month. No significant improvement was observed in the middle or upper Δ PA group compared with the lowest one, but with a borderline interaction with baseline HbA1c. **Conclusions:** PA level can be improved by exercise-focused intervention in Chinese T2DM patients which improves HbA1c. Continuous exercise intervention should be provided for a long-term benefit.

The Effective Strategies to Prevent Noise- Induced Hearing Loss: A systematic Review

Rama Krishna Supramanian, Marzuki Isahak, Noran Naqiah Hairi

University of Malaya

Despite being a preventable occupational disease, noise-induced hearing loss (NIHL) remains to be one of the most prevalent occupational disease with an estimated annual incidence of 1.6 million per year accounting for 16% of hearing loss in adults worldwide. The purpose of this systematic review is to evaluate the evidence for effective workplace interventions to prevent NIHL which can be used in development of future noise prevention and mitigation strategies as well as ensure effective noise control measures and hearing conservation where existing interventions are considered to be less effective. In addition, this review also examined key enablers and barriers to each NIHL prevention strategy. A systematic search focusing on the effectiveness of interventions in the prevention of NIHL of 3 biomedical databases up to 31st December 2016 yielded a total of 11 studies with a total of 36 749 participants. The overall quality of the studies range from poor to good, as evaluated using the Australian National Health and Medical Research Council (NHMRC) levels of evidence and grades. Two studies highlighted the key role played by external leadership and workplace management as an effective method in workplace noise management. Three studies looking into one-off training, of which one is a randomised controlled trial (RCT), showed a favourable effect in increasing hearing protector use. The remaining 6 studies suggested that interventions that combine multiple strategies are effective in prevention of NIHL. A comprehensive multifactorial intervention that combines multiple strategies is proposed as the strategy of choice in prevention of NIHL at the workplace.

Xanthine Oxidase Inhibition by Crude Methanolic and Aqueous Extracts of *Blumea balsamifera*

Natalie Kim Dominique L. Basilio, Leo Alexander T. Hapitan

UP Manila

Xanthine oxidase (XO) is an enzyme that catalyzes the oxidation of xanthine to uric acid, which is responsible for the formation of monosodium urate crystals in gouty arthritis. Aside from medicines such as allopurinol, which can counter this effect, certain natural phytochemicals are believed to also have urate-lowering properties. In this research, crude methanolic and aqueous extracts of leaves from the plant *Blumea balsamifera*, were tested for their potential inhibition of XO activity via spectrophotometric assay. Volume-by-volume (v/v) concentration levels at 0.5% and 1% of each type of leaf extract were used in the phosphate-buffered reaction mixture containing the enzyme and the xanthine substrate. Results showed that at 0.5% and 1% concentration levels, the aqueous leaf extracts had respective mean values of 98.68 and 98.28 percent inhibition of the enzyme, significantly greater than the obtained mean values of 13.91 and 13.52 percent inhibition for the same respective concentrations of the methanolic leaf extracts. The enzyme-inhibiting property of the *B. balsamifera* leaf extracts could be attributed to relatively greater amounts of antioxidant phytochemicals, such as flavonoids, which are more likely to be extracted with polar solvents.

The Tangled Web of Human, Animal and Environmental Health

Atie Cox

Sydney University

In vitro Determination of Anti- Proliferative Property of the Semi-purified Flavonoids of Spirodela polyrrhiza against Human Colorectal and Breast Cancer Cell Linesby

Adrian C. Alvarez

Our Lady of Fatima University-College of Pharmacy

In-Vitro Determination of the Anti- Proliferative Property of Semi-Purified flavonoids from the leaves extract of *Epipremnum aureum* Linn. Against Colorectal Carcinoma HCT 116 Cell Line

Ma. Regina Bernardo

Our Lady of Fatima University

Anthropometric Size Conformity in Bathroom and Bedroom Design of Independent Elderly of Budi Mulia I Elderly Home Jakarta Year 2018

Bonardo Prayogo Hasiholan, Indri Hapsari Susilowati

Universitas Indonesia

Nowadays the proportion of elderly people in the world continues to increase. However, the facilities that are intended for them are usually considered as normal adult age. Though the elderly already have different levels of capacity and limitation. The elderly changes seen are the anthropometric size decreased by 1 cm per decade. Size discrepancies will result in discomfort and may lead to safety and health risks. This study was descriptive with quantitative approach which conducted in Budi Mulia I Elderly Home to find out the conformity between anthropometric size and dimension of the facilities in bathroom and bedroom. This research is focus on Catelya House for women and Edelweis House for men. It found bed, wardrobe, and toilet facility are still not conform to the anthropometric of elderly. The bed has 3 designs in 2 houses and most of them is not match with the height. And also most of wardrobes section is not match with the elbow height of elderly so it's too high and too low for elderly. But the bathroom of Catelya and Edelweis design is quiet match with elderly. Only the handrails in Edelweis house are too far for elderly. So it needs to redesign for minimize the risk of safety and health, like falls.

Does Knowledge and Beliefs about HPV improve after receiving HPV vaccination?

L.P. Wong, H. Alias, I.C-Sam, G.D. Zimet

Department of Social and Preventive Medicine, Faculty of Medicine, University of Malaya; Department of Medical Microbiology, Faculty of Medicine, University of Malaya; Department of Pediatrics, School of Medicine, Indiana University, 410 W, 10th St., HS 1001, Indianapolis, IN 46202, U.S.

Study Objective: To assess the knowledge and beliefs regarding HPV and the HPV vaccine among girls before and after vaccination in the Malaysian HPV Immunisation Programme. **Design:** A nationwide longitudinal survey. **Setting:** Thirty-two randomly selected schools from 13 states and 3 federal territories in Malaysia from February to March 2013, and October to November 2013. **Participants:** Form One female students (13-year-old). **Interventions:** None. **Main Outcome Measures:** Mean knowledge score of HPV infection. **Results:** A total of 2,644 students responded to the pre-vaccination survey, of which 2,005 (70%) completed the post-vaccination survey. The mean knowledge score was 2.72 (SD \pm 2.20) out of a maximum score of 10 in the pre-vaccination survey and increased significantly to 3.33 (SD \pm 1.73) after the 3 doses of HPV vaccine ($p = 0.001$). Many answered incorrectly that, 'Only females can get HPV infection' (91.5% pre-vaccination versus 96.1% post-vaccination), and only a few were aware that, 'Vaccinating boys helps to protect girls against HPV infection' (11.7% for pre-vaccination versus 10.2% for post-vaccination). The mean knowledge score was significantly higher post-vaccination among higher-income families and those with parents of a higher occupational status when compared to their respective counterparts. Regarding beliefs about the HPV vaccine, 89.4% in the pre-vaccination survey held the view that they will not get a HPV infection; and the percentage remained similar in the post-vaccination survey. Perceived severity of HPV infection also remained low in both pre- and post-intervention groups. Only 21.5% reported receiving health information about HPV along with the provision of the HPV vaccine; and those who received health information showed higher levels of knowledge. **Conclusion:** Findings revealed a general lack of knowledge and erroneous beliefs about HPV and the HPV vaccine after receiving vaccination. This suggests that imparting accurate knowledge about HPV along with vaccine administration is essential. Specifically, girls from lower socioeconomic groups should be a target of educational intervention. **Keywords:** HPV, Knowledge, Beliefs, Pre-vaccination, Post-vaccination, Female