



4th World Congress on

Public Health, Epidemiology & Nutrition

May 24-25, 2018 Osaka, Japan

Posters

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Food acquisition through private and public social networks and its relationship with household food security among various socioeconomic statuses in South KoreaKirang Kim¹ and Sohyun Park²¹Dankook University, Republic of Korea²Hallym University, Republic of Korea

This study was conducted to understand food acquisition practices from social networks and its relationship with household food security. In-depth interviews and a survey on food security were conducted with twenty-nine mothers and one father in metropolitan areas of South Korea. Many families acquired food from their extended families, mainly participant's mothers. Between low-income and non-low-income households, there was a pattern of more active sharing of food through private networks among non-low-income households. Most of the low-income households received food support from public social networks, such as government and charity institutions. Despite the assistance, most of them perceived food insecurity. We hypothesized that the lack of private social support may exacerbate the food security status of low-income households, despite formal food assistance from government and social welfare institutions. Interviews revealed that certain food items were perceived as lacking, such as animal-based protein sources and fresh produce, which are relatively expensive in this setting. Future programs should consider what would alleviate food insecurity among low-income households and determine the right instruments and mode of resolving the unmet needs. Future research could evaluate the quantitative relationship between private resources and food insecurity in households with various income statuses.

Biography

Kirang Kim is an Associate Professor at Dankook University in South Korea. Her research interests include measuring food security and understanding its associations with various socioeconomic and behavioral factors. She has been involved in various researches to evaluate national and local nutrition and food policies.

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Trends in influenza vaccination coverage rate among Korean cancer survivors: Based on Korean National Health and Nutrition Examination Surveys III-VI**Jae-woo Lee and Hee-Taik Kang**

Chungbuk National University Hospital, Republic of Korea

There are no studies about the trend of influenza rate among cancer survivors in Korea. Our study aimed to investigate recent 11-year trend of the vaccination rate among Korean cancer-survivors. We used data from the Korean National Health and Nutrition Examination Survey III (2005), IV (2007-2009), V (2010-2012) and VI (2013-2015). After excluded those who younger than 40 years of age, 2,210 cancer survivors participants (861 men and 1,349 women) were finally included in this study. The influenza vaccination rate was significantly decreased with KNHANES phase in men cancer survivors, with the rate of 74.8, 64.8, 56.2, and 55.2% (β coefficient= -0.257, P for trend <0.001) between KNHANES III and VI. After stratification of age, in elderly men (≥ 65 year), the influenza vaccination rate was significantly decreased with KNHANES phase (P for trend=0.017) and but in elderly women (≥ 65 year) cancer survivor, the influenza vaccination rate was significantly increased (P for trend=0.011). The influenza vaccination rate was significantly decreased with KNHANES phase and public disease preventive efforts are needed of cancer survivors, especially in elderly men.

Biography

Jae-woo Lee is the hospital Professor in Department of Family Medicine, Chungbuk National University College of Medicine. He is interested in Primary Health Care and Noncommunicable diseases and their risk factors. Recently he has published articles on these areas of interest.

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Risk assessment and management of Taiwan residents exposed to arsenic associated with rice consumption**Bo-Ching Chen**

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Rice and rice products are staple foods in Asia. Rice grains may accumulate excess arsenic (As) when exposed to As-contaminated soil. Therefore, it is important to assess potential human health risks through daily rice consumption. This study aims to perform dietary As risk assessment to estimate the probability of As from contaminated soils entering local residents. Field investigations were conducted in paddy rice fields in central Taiwan to determine the correlation between As levels in soil and in brown rice. The ingestion rate of rice of local residents was also investigated. A probabilistic risk assessment was then employed to estimate carcinogenic and non-carcinogenic risks of Taiwan residents via rice consumption. The result showed that the mean total As concentration in soil was 44.96 mg kg^{-1} , which was a little lower than the local risk-based limit of As for soil used for food crop production (60 mg kg^{-1}). The total daily intakes of inorganic As from rice consumption were 0.0002 and $0.0011 \text{ mg kg}^{-1} \text{ day}^{-1}$ for the 50th and 95th percentiles, respectively. The assessment results show that the predicted 50th and 95th percentile for target cancer risks (TRs) were respectively 0.0003 and 0.0016 , both markedly higher than the acceptable target cancer risk of 10^{-4} - 10^{-6} . To manage the health risk of local residents due to the ingestion of inorganic As from rice, our results suggested that the regulation standard of As in farmland soil should be set below 15 mg kg^{-1} .

Biography

Bo-Ching Chen has completed his PhD at the age of 32 years from National Taiwan University. He is the full Professor of Master Program of Green Technology for Sustainability, and the Dean of College of Science and Technology, Nanhua University, Taiwan. He has published more than 40 papers in reputed journals.

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Morning sickness and its associated factors among young adults of Karachi, Pakistan**Maha Akhter**

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Objective: A large number of studies are available with an account of morning sickness in pregnancy known as Hyperemesis Gravidarum, but up to our knowledge, no study has been conducted which has determined the association of morning sickness in general non-pregnant population. For the same reason, this study was planned to determine the frequency and associated factors related with morning sickness among young adults, of Karachi, Pakistan.

Methods: A cross-sectional, descriptive study was conducted from June-August 2016 at Dow University of Health Sciences (Ojha campus), and University of Karachi, Pakistan using non-probability convenience sampling. Self-administered questionnaires were filled by the participants from both the institutions. The inclusion criteria was people having 18-35 years of age of either gender with at least 16 years of education, while pregnant women (or those with history of pregnancy) or individual with other known medical issues were excluded. Total of 450 participants responded. Out of them, 237 were Healthcare professionals/students and 214 were from other non-health related fields. Data was analyzed using SPSS v 16, and associations were tested using Chi square test taking $p < 0.05$ as significant level.

Results: The prevalence rate of morning sickness in this study was 71% ($n=316$). Awareness about morning sickness was 48% ($n=215$) and it was statistically related with Field of study ($p=0.01$). The common symptoms reported in this study were 'Nausea and Headache (42% $n=132$)' and 'Dizziness (30% $n=96$)' and the common factors for these symptoms were 'Improper sleep in night (53% $n=165$)', and 'Anxiety (34% $n=106$)'. Age ($p=0.07$) and Gender ($p=0.7$) were not significantly associated with the occurrence of morning sickness, while food intolerance to dairy product, egg and wheat was found to be significantly associated with morning sickness ($p=0.001$). About 56% ($N=252$) people said that they face difficulty in breakfast intake due to these symptoms and as a result their daily physical activity is affected (68% $n= 212$). Types of meal taken in dinner that cause morning sickness the next morning were Fast food (42% $n=138$), Heavy protein diet (28% $n=92$), Eastern spicy food (26% $n=87$). Those who experience morning sickness reported it to be common in their other family members too (52% $N=233$).

Conclusion: The finding of our study has shown a notable prevalence of morning sickness in young adults, yet they lack sufficient knowledge about it. There is a need to create awareness about it emphasizing on the interventions and a healthy diet regimen to cope with this condition.

Biography

Maha has completed her BS in Medical Technology (Clinical Lab. Sciences) at the age of 23 years from Dow Institute of Medical Technology (Dow University of Health Sciences). She is working as a Blood Bank Technologist at Afzaal Memorial Thalassemia Foundation, Karachi, Pakistan. She is passionate about research and is currently enrolled in several Online Research and Data Management Courses.

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Accepted Abstracts

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Factors determining the use of intracytoplasmic sperm injection in women without male factor infertility

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Background & Objective: Intracytoplasmic Sperm Injection (ICSI) technique was primarily used to treat couples with male factor infertility. Despite questionable evidence of benefits over conventional *in vitro* fertilization (IVF), ICSI use has markedly increased in recent decades among couples without male factor infertility. The reasons for this increasing trend of ICSI use are unknown.

Method: A retrospective cohort study was conducted in 83,868 women diagnosed without male factor infertility, using 2006-2010 data from the Society for Assisted Reproductive Technology Clinic Outcome Reporting System (SART CORS).

Result: Between 2006 and 2010, overall ICSI use in women without male factor infertility increased from 53.0% to 59.2%. The factors associated with an increased use of ICSI were Hispanic ethnicity (adjusted odds ratio [aOR]: 1.3, 95% confidence interval [CI]: 1.2-1.4), obesity (aOR: 1.1, 95% CI: 1.1, 1.3), those women who had prior history of ART treatments with fresh eggs (aOR: 1.4, 95% CI: 1.3, 1.6 for 4 and more treatments), and women diagnosed with diminished ovarian reserve (aOR: 1.2, 95% CI: 1.2, 1.3) and other factor for infertility (aOR: 1.4, 95% CI: 1.3, 1.5). Multigravida, women with prior history of miscarriages, and women diagnosed with tubal factor infertility were less likely to use of ICSI.

Conclusion: ICSI procedures were performed among more than half of couples without male factor infertility. Although several demographic and reproductive factors were found to be associated with an increased use of ICSI, the questions remain whether its use is necessary or justified in women without male factor infertility.

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Trends and patterns of child stunting and the double burden of child under-nutrition in Malawi: A multinomial logistic regression analysis of the 2000 and 2015 Malawi Demographic and Health Surveys Data

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Child under-nutrition is a major global health challenge that is implicated in child deaths in developing countries every year and contributes to poor cognitive development. Recent estimates reveal that in Malawi 37% children are stunted, 12% are underweight and 3% are wasted. This paper used the 2000 and 2015 Malawi Demographic and Health Survey data to examine the co-existence of stunting and underweight within a child, identify children that suffer from stunting only and performed a multinomial logistic regression to analyze changes in the determinants of child nutritional status in Malawi. The percentage of children that are stunted reduced from 37.2% in 2000 to 26.8% in 2015. Most children identified as underweight were also stunted: 14.5% in 2000 and 8.8% in 2015, indicating the existence of the double burden of child undernutrition. The following factors were significantly associated with a child's nutritional status: age, sex, size at birth and household wealth status. Mother education level was only consistently associated with child stunting while mother height, mother weight and having a younger sibling were important associates of the double burden of child undernutrition. Child stunting and the double burden of child undernutrition have declined but remain high. Increased female education especially at secondary or higher level and child spacing are likely to help tackle child undernutrition in Malawi. Replacing the underweight measure by the double burden of undernutrition measure may help with the formulation of appropriate policy interventions to tackle child undernutrition in Malawi and affected countries.

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Novel approaches to understanding child health and built environments

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Built environments can have significant and enduring impacts on children's physical activity behaviours including active transport and independent mobility, ultimately impacting body size. Yet, little is actually known of the ways children use urban space and the types and characteristics of places that are important to children. Neighbourhoods for active kids is a cross-sectional study of 1102 children aged 9-12 years, residing in Auckland, New Zealand. Children completed an online participatory geographic information systems survey to capture spatially-linked information about neighbourhood perceptions, use and experiences from the child's perspective. Destinations marked by children were classified for their primary purpose and the distance from home calculated. For each destination, children reported contextual information about that setting. Children's body size and physical activity were objectively assessed and parents completed a telephone survey for socio-demographic information. This presentation will explore the differing spatial patterns of time use in the dataset, drawing from the neighbourhood mapping activity and examine the relationships between these patterns of time use and body size in children. This process provides a more complete picture of health behaviors and context (e.g., active transport with friends) than investigating one variable alone (e.g., activity) and ignoring the context in which the behavior occurs. Cluster analysis and visualization approaches will be used to explore multidimensional patterns of time use in association with body size. Study findings provide new insights and contributions to the field of environments and health, particularly around environmental perceptions and travel modes to destinations.

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Estimating the direct medical economic burden of health care-associated infections in public tertiary hospitals in Hubei Province, China**Jing Sun**Chinese Academy of Medical Sciences, China
Peking Union Medical College, China

This study estimated the attributable direct medical economic burden of health care-associated infections (HAIs) in China. Data were extracted from hospitals' information systems. Inpatient cases with HAIs and non-HAIs were grouped by the propensity score matching (PSM) method. Attributable hospitalization expenditures and length of hospital stay were measured to estimate the direct medical economic burden of HAIs. STATA 12.0 was used to conduct descriptive analysis, bivariate χ^2 test, paired Z test, PSM ($r=0.25\sigma$, nearest neighbor-1:1 matching) and logistic regress analysis. The statistically significant level was set at 0.05. The HAIs group had statistically significant higher expenditures and longer hospitalization stay than the non-HAIs group during 2013 to 2015 ($P<0.001$). The annual average HAI attributable total expenditure, medicines expenditure, out-of-pocket expenditure and number of hospitalization days per inpatient were (2015 US\$) 6173.02, 2257.98 and 1958.25 and 25 days during 2013 to 2015. The direct medical cost savings was estimated at more than 2015 US\$12 billion per year in Chinese tertiary hospitals across the country. The significant attributable direct medical economic burden of HAIs calls for more effective HAI surveillance and better control with appropriate incentives.

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Dietary practices by rural menopausal women in South Africa**Nditsheni Jeanette Ramakuela**
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Menopause for majority of rural women from midlife has become a global health challenge especially coping with the clinical challenges and dietary issues that come with it. Women from the ages of 40 years and above start experiencing clinical manifestations way or another that also impact on their diet. This study adopted a qualitative approach and aimed to explore and describe dietary practices by rural menopausal women of Limpopo Province, South Africa. Four villages with the largest population were purposefully selected. A representative portion of the population of women aged 40 years and above was selected and a convenient sample of 29 women was selected for the study. Purposive sampling was used to select the participants for the focus groups. Sample size was determined by data saturation during the fourth focus group interview. Data were collected through focus group interviews and one central question guided the discussions. Tesch's eight steps of qualitative data analysis were used. Measures to ensure trustworthiness and ethical issues were observed. Three themes emerged namely: Psycho-social challenges; menopausal age and diet practices, healthy lifestyle and remedies. In conclusion, the study recommended that counselling and proper health education regarding healthy dietary practices for rural menopausal women be done.

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Community based intervention and nutritional status among children under five years of age in Dang, Nepal**Rajan Paudel**

Iran Medical Sciences University, Iran

Background: Undernutrition is high prevalent in Nepal which interferes with physical and mental development among children. This study aimed to identify the effect of community-based nutritional intervention to reduce undernutrition among children under five.

Methods: The study design included a quasi-experimental, time series. The minimum sample size to identify the factors associated with undernutrition was 426 and to determine the effect of intervention was 75. Logistic regression was used to identify the factors of undernutrition. Repeated measures ANOVA and random-effects panel data regression was applied to evaluate the effect of the intervention and exposure time.

Results: This study found that female children, illiterate or non-formally educated women, mother's occupation other than housewife, food insufficiency from own land, ANC, PNC and place of delivery were significantly associated with childhood undernutrition among children. The mean Z-scores of weight for age and weight for height were increasing till the intervention ended, however height for age mean Z-score was still negative ($<-2SD$). On an average, in every one month of nutritional intervention leads to an improvement in WAZ by 0.49 units (Coef. 0.49, 95% CI: 0.47-0.50), WHZ by 0.41 units (Coef. 0.41, 95% CI: 0.38-0.44) and HAZ by 0.31 units (Coef. 0.31, 95% CI: 0.29-0.33) adjusting the important socio-demographic and health related variables.

Conclusion: Community-based intervention utilizing local resources was found effective to reduce undernutrition among children, that is why local government should think to scale up such interventions in other areas.

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A new insight on the utilization of MyPlate recommendations to explore nutritional outcomes and the deployment of a social media mobile based feedback concept to collect dietary intake: A Pilot study**Younis A Salmean, Hind Almulla, Noura Alkharji, Shorooq Alkandari, Dalal Alkhamis and Dari Alhuwail**
Kuwait University, Kuwait

MyPlate recommendations may be useful to enhance public knowledge of appropriate nutrition practices, however, language and technology barriers and the unawareness of the website makes MyPlate tools a lost opportunity for the Kuwaiti population. We sought out to enhance knowledge of nutritional practices such as consumption of more fruits and vegetables and reduced energy intake using MyPlate recommendations by relaying a translated version of the recommendations using printed and mobile versions over a 4-week period. We also attempted to exploit mobile technology to collect dietary intake using novel mobile based method. Participants were asked to take a photo of each item prior to consumption and after consumption, where photos are submitted via mobile sharing message App immediately. In addition, each photo was accompanied by detailed description of type, amount and brand of what was consumed. In addition, the mobile feedback allowed the staff to further ask the participants for dietary details to enhance the dietary collection whenever it was needed. There was a significant change in weight in the intervention group (65.5 kg to 65.0 kg, $P < 0.05$) but not in the control group (60.7 kg to 60.8 kg). There were no changes in other indicators related to fruit and vegetables consumption or energy intake. The mobile feedback method was convenient with high compliance. Collection of dietary intake on mobile using instant feedback appears to be practical, convenient and cost effective. The dissemination of MyPlate recommendations on mobile appears to have a limited but positive impact over a short time frame.

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Investigation of sleep quality and health status for high-tech workers in TaiwanYu-Kai Lin¹, Yu-Chun Wang² and Ming-Kuan Sun²¹University of Taipei, Taiwan²Chung Yuan Christian University, Taiwan

The working style and frequency of shifts in high-tech industries may have a potential impact on sleep quality. This study, based on literature review, explores the relationships among demographics, sleep quality and health status for high-tech workers, moreover, estimates the possibilities of sleep quality and health in shift. This study recruited 200 workers aged from 25 to 60 years old (100 cases for administrative workers and 100 cases for shift workers) from a high-tech factory in Northern Taiwan. Questionnaires, including Checklist Individual Strength, Pittsburgh Sleep Quality Index (PSQI) and 36-Item Short Form Survey (SF-36) were conducted to 200 cases. Two scales were used to differentiate health status and sleep quality. Statistical analyses were analyzed matching cases' sex and age, including descriptive statistics, generalized linear models, Pearson correlation analysis, paired T-test and decision tree analysis. The results show that the general health (57.8 points), vitality (53.8 points), mental health (61 points) and sleep quality (PSQI=7.2) scored poorly among the participants. Sleep quality and health status were mostly affected by flexible working hours. In addition, paired T-tests report health status with body ache (68% vs. 56%, $p=0.0212$) and sleep quality (67% vs. 65%, $p=0.4880$) among shift workers were worsen than those non-shift workers. Generalized linear models show the sleep quality ($p=0.00529$) is a significant factor in association with flexible working hours. The study suggests that improvement of occupational health services are recommended for shift workers, moreover, the questionnaire can be simplified to improve its accuracy. Increased the study case numbers to improve the accuracy of questionnaire for health surveys are also recommended.

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Evaluation of national Kala Azar surveillance system – India, 2016

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Introduction: Kala Azar (KA) or visceral Leishmaniasis is a neglected tropical disease with 100% case fatality, if untreated, and causes 1.6 million illnesses worldwide annually. India accounts for 50% of global burden. We described and evaluated 'national vector borne disease control programme's (NVBDCP)' KA surveillance system (KASS) to identify strengths, weaknesses and to provide recommendations.

Methods: We reviewed 2016 annual report and evaluated KASS attributes. We interviewed all staff about clarity of guidelines, ease of reporting, data processing, data flow and feedback receipt to evaluate simplicity. We calculated proportion states used standardized formats and web-portal to evaluate acceptability. We calculated proportion state monthly reports received by due-date and proportion national monthly line-list and web-portal with missing data to evaluate timeliness and completeness, respectively. We calculated proportion public and private institutions reported to NVBDCP to evaluate representativeness. We enumerated times reporting guidelines changed, web-portal disrupted, hotspots detected and indoor residual activities conducted to evaluate flexibility, stability and usefulness, respectively.

Results: KASS targets four states prioritized for KA elimination. It includes monthly passive surveillance and quarterly active surveillance through camps and house-to-house searches in hotspots. Of all staff, 88% (8/9) reported guidelines to be clear, however, ease of reporting, data processing, data flow and feedback receipt were 22% (2/9), 33% (3/9), 44% (4/9) and 22% (2/9), respectively. In 2016, 25% (1/4) states used standardized formats and 50% (2/4) used web-portal. Only 29% (14/48) reports were timely, 33% (4/12) line-list and 16% (2/12) web-portal data were complete. All public but no private health institutions reported. Reporting guidelines changed from monthly to weekly recently, web-portal had six disruptions and four hotspots detected followed by indoor residual activities.

Conclusions: KASS is flexible and useful; however, needs improvement in simplicity, acceptability, timeliness, completeness, representativeness and stability. We recommended training staff about standardized surveillance and guidelines. Consequently, by October 2017 timely standardized reporting improved and nine hotspots were identified.

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Kyasanur forest disease surveillance system evaluation, Shivamogga, Karnataka and Sindhudurg, Maharashtra, India – 2016-2017**Ashok Kumar Talyan¹, Nataraju Seegekote Mariyappa¹, Pradeep Khasnobis¹, C S Agarwal¹, Pavana Murthy², SanketV Kulkarni¹, Ruchi Jain¹, Rajesh Yadav³, Ekta Saroha³, Samir V Sodha^{3,4}, A C Dhariwal¹ and Sujeet Singh¹**¹National Centre for Disease Control, India²World Health Organization, India³Centers for Disease Control and Prevention, India⁴Centers for Disease Control and Prevention, USA

Background: Kyasanur forest disease (KFD), transmitted by ticks or contact with infected monkeys, can cause hemorrhagic fever and death. In India, KFD was first reported from Shivamogga district, Karnataka but recently spread to neighboring states: Kerala, Goa and Maharashtra. In 2016, there were 411 cases and 11 deaths. We evaluated KFD surveillance through in Shivamogga, Karnataka and Sindhudurg, Maharashtra to identify strengths, weaknesses and make recommendations to prevent spread.

Methods: We interviewed district health officers and stakeholders from veterinary and forest departments at study sites. We analyzed April 2016-March 2017 data to evaluate simplicity, timeliness, data quality, representativeness, stability and flexibility.

Results: KFD is not notifiable but is reported as state-specific disease to the national 'integrated disease surveillance programme'. There were 38 KFD cases in Shivamogga and 150 in Sindhudurg during April 2016-March 2017. All 12 (100%) health officers interviewed in Shivamogga and 11/12 (92%) in Sindhudurg knew case definition. Similarly, 11/12 (92%) officers in Shivamogga and 10/12 (83%) in Sindhudurg said reporting was easy and simple. Among assessed facilities, only 5 (42%) in Shivamogga and 7 (58%) in Sindhudurg timely submitted weekly reports on Monday. Upon checking data quality; among KFD cases reported to district, 38/38 (100%) cases data matched health facilities records in Shivamogga and 12/150 (8%) cases data matched records in Sindhudurg. KFD cases were only reported and represented from government facilities. With respect to stability, in Shivamogga 11/12 (92%) health facilities had enough reporting forms compared with 9/12 (75%) in Sindhudurg. To achieve flexibility, three inter-department meetings in Shivamogga and six in Sindhudurg were held in 2016-17 with veterinary and forest departments.

Conclusions: KFD surveillance in both districts was simple, stable and flexible but needs improvement for timeliness, data quality and representativeness. We recommend KFD surveillance (human and animal) training for public and private health departments, forest and veterinary departments along with inter-department coordination.

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Evaluation of reporting system under national programme for prevention and control of cancer, diabetes, cardiovascular diseases and stroke – in two districts of Uttar Pradesh, India, May 2017**Akhileshwar Singh³, Ram Niwas Gupta¹, Mukesh Chandra Dubey¹, Chinmoyee Das², Chandra Shekhar Agarwal², Samir V Sodha^{4,5}, Ekta Saroha⁴, Rajesh Yadav⁴ and Sonia Gupta³**¹Office of Chief Medical Officer, India²Ministry of Health & Family Welfare, India³National Centre for Disease Control, India⁴Centers for Disease Control and Prevention, India⁵Centers for Disease Control and Prevention, USA

Background: Globally 40 million deaths occur annually from non-communicable diseases (NCD). In India, NCD account for 60% of premature mortality (<70 years). In 2010, India launched national program for prevention and control of cancer, diabetes, cardiovascular diseases and stroke (NPCDCS) to provide services for opportunistic screening, diagnosis confirmation and case management of common NCDs among persons >30 years, at designated NCD clinics. We evaluated reporting system under NPCDCS in Lalitpur and Firozabad districts of Uttar Pradesh to guide evidence-based recommendations.

Methods: We reviewed guidelines and reports and conducted interviews in NCD clinics at district and 19 sub-district health facilities to assess simplicity, data quality, acceptability, representativeness, timeliness and flexibility.

Results: Reports of number screened, diagnosed and treated are generated monthly in health facilities. Regarding simplicity, 2/17 interviewees in Firozabad and 2/14 in Lalitpur reported understanding format because of non-translation into local language and due to lack of training. Regarding data quality, 5/29(17%) of reports in Firozabad and 17/32(53%) in Lalitpur matched with health facility records. 50% reports had incomplete data records in Firozabad (105/210) and Lalitpur (151/302). Reflecting acceptability, proportion of reporting units submitting report was 80% (187/233) in Firozabad and 91% (304/332) in Lalitpur. Regarding representativeness, primary health facilities were not doing NCD screening; screening was only at district and sub-district NCD Clinics. Private health facilities do not report. Timeliness of monthly reporting was >90% among sub-district facilities in both districts but was only 45% and 33% at district hospitals in Firozabad and Lalitpur, respectively. System was flexible to add comorbidity as a variable collected.

Conclusions: NPCDCS reporting system in both districts is acceptable, timely and flexible, but needs improvement in simplicity, data quality and representativeness. After our evaluation, NCD screening has now begun at primary health care levels. We recommend local language translation of reporting formats and training of NCD staff.

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Exercise behavior and health status of Akha in Mae Suai district, Chiang Rai province**Jutamas Muangmool, Patchara Koychusakun, Manuchet Manotham, Waranya Maneerat, Aree Choyae and Suphan Vanishprinyakul**
Chiang Rai Rajabhat University, Thailand

This quantitative study aimed to survey the exercise behavior and health status of the Akha ethnic group in Mae Suai district, Chiang Rai province, Thailand. The respondents of the study consisted of 200 Akha who can communicate and agree to cooperate with the study. The research tools were questionnaires and health circle devices such as sphygmomanometer, stethoscope and body weighing devices. Frequency, percentage, mean and standard deviation were used for data analysis. The research results revealed that most of the samples have no chronic disease but the high level of systolic blood pressure (SBP) was shown. Meanwhile, the diastolic blood pressure (DBP), heart rate and BMI were in normal range. This research had shown three level of exercise behavior of Akha people in Thailand. The exercise behavior of 183 Akha people (91.5%) were in fair level, meanwhile, the exercise behavior of 8 Akha people (4%) were in good level; conversely, the exercise behavior of 9 Akha people (4.5%) were in poor level. The highest score of health behavior was not exercising immediately after eating ($\bar{X} \pm S.D = 2.94 \pm 0.24$), followed by exercise until the onset of pain ($\bar{X} \pm S.D = 2.93 \pm 0.26$), Akha people clean their house instead of exercising ($\bar{X} \pm S.D = 1.91 \pm 0.69$), Akha people usually walk and run on weekend ($\bar{X} \pm S.D = 1.66 \pm 0.55$) and Akha people exercise only 15-30 minutes per day ($\bar{X} \pm S.D = 1.50 \pm 0.54$) and finally the lowest score was exercising three times a week ($\bar{X} \pm S.D = 1.47 \pm 0.55$). The overall behavior of the subjects were in fair level. However, these sample groups should be taken care by concerning officers because of their high level of SBP.

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Factors associated with glycemic control among type-2 diabetes mellitus (T2DM) patients attending clinics at Suva health centers, Fiji in 2011-2016: A mixed method study**Masoud Mohammadnezhad, Pablo Cabrelá Romakín, Donald Wilson and Sabiha Khan**
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Background & Objective: Diabetes, a global health emergency, is the number one cause of morbidity and mortality in Fiji. Despite advancement in diabetes management, a lot of diabetics in Fiji are still suffering from preventable complications and dying prematurely. This study is conducted to determine poor glycemic control proportion and its associated factors among T2DM adults attending clinics at Suva health centres in 2011-2016.

Methodology: This quantitative study was conducted at three Suva health centres on sample size of 338 adult T2DM patients registered on August 1, 2011-August 1, 2017 for the quantitative study and 18 health care workers working at the same diabetes clinics purposively selected for three focus group discussions. Data analysis included logistic regression analysis using SPSS version 22.0. P-value less than 0.05 was considered as the significant level.

Result: Out of the 338 participants, 261 (77.2%) had poor glycemic control (HbA1C<7%). Patients had a mean age of 56 years, 59% were female, mean duration of diabetes was 4.7 years, 23.7% were treated with insulin and 70.7% were in overweight and obese categories. Patients who had poor RBS (AO =7.43, 95% CI: 2.46-22.45) and poor FBS (AOR=9.76, CI: 3.11-30.58) had high odds of poor glycemic control.

Conclusion: Majority of patients had poor glycemic control. Patients with poor random and fasting blood sugars were likely to have poor glycemic control. Regular RBS monitoring could be a cost-effective way of monitoring glycemic control in the absence of HbA1C testing.

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Evaluation the impact of mass media campaign on women's intention to mode of delivery**Nahid Akbari**

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Aim: The aim of this study is to evaluate the effectiveness of pre- and post-media campaign intervention to improve women's knowledge, attitude and intention to NVD.

Method: This study was designed pre- and post-campaign evaluation. 37 public and private maternity care randomly selected from five areas of north, west, south, east and center in Tehran using multi-stage cluster sampling. 702 eligible pregnant women who attended to maternity care randomly participated in this study. The 'No to unnecessary CS delivery' mass media ran in July of 2015 for ten days and consisted of a daily 100 s television advertising with supporting print advertisements. Women's knowledge about the benefits of NVD and risk of CS delivery, attitude and intentions towards mode of delivery was compared between baseline and post-intervention.

Result: There was a significant increase in the proportion of pregnant women who knew the benefit of NVD and the complication of elected CS delivery from baseline to post-intervention (P value=0.008). Also, there was a significant higher knowledge score was shown among respondents who viewed the media campaign than among who did not viewed it (P value=0.041). A more positive attitude towards NVD delivery was indicated from baseline to post-campaign (P value=0.05). Also, there were a significant increasing attitude to NVD between respondents who were viewed and those who did not. In regard to behavioral intention on NVD, there was a significant increase in behavioral intention to have NVD between respondents who seen the campaign and those who did not (P value=0.002).

Conclusion: Results show a public mass media campaign improve pregnant women's knowledge, attitude and intention towards NVD. However, long-term media interventions with normalizing birth programs might be more effective to change intention to CS delivery especially in a culture where the potential risk of elected CS delivery have been overshadowed by obstetrics and social pressure.

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The anti-diabetic use of *Allium cepa* (Garden Onions)**Desiree R Daniega**

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One of the natural products found to have anti-diabetic properties is *Allium cepa*, commonly known as garden onion. Thus, this review paper will go through some researches which have been done to illustrate the anti-diabetic property of *Allium cepa*. Quercetin, a major phenolic content in onion, inhibits the liberation of D-glucose from oligosaccharides and disaccharides by inhibiting α -glucosidase, resulting in delayed absorption of glucose from the intestine and is thereby considered responsible for controlling blood glucose levels. In several animal studies, the administration of oral juice of *Allium cepa* significantly decreased the blood sugar levels in drug-induced diabetic rats. Ether extract of the fresh bulb, administered to pancreatectomized dogs and rabbits by gastric intubation, was active. Ether extract of the fresh bulb, administered intragastrically to rabbits at a dose of 250 gm/kg, was active. A dose of 10.0 mg/kg, administered orally to rabbits, was active. A drop in blood sugar of 15 mg relative to inert treated controls indicated positive results. These results indicated that the different extracts using different agents do not affect the activity of the anti-diabetic effects of the components of allium cepa. Although, further studies have to be done in order to establish the most appropriate dosage for its maximal hypoglycemic control without causing any harm to the animals of study, *Allium cepa* shows promising evidence as a possible food supplement in the management of diabetes mellitus. Studies have demonstrated the potential benefit of *Allium cepa* in lowering the blood sugar levels among drug-induced diabetic rats.

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