Abstract Proceedings

Public Health Approaches toward Sustainable Development

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As the ASEAN Institute for Health Development, Mahidol University in partnership with the Thai Health Association and Ministry of Public Health will collaboratively organize the 6th Asia – Pacific Conference on Public Health (APCPH) and the 1st ASEAN Health Promotion Conference with theme of “Public Health Approaches toward Sustainable Development” on 23-26 August 2016. In order to achieve the conference objectives, the ASEAN Institute for Health Development hence issued Order No. 12/2016 of the ASEAN Institute for Health Development and appointed International Scientific Committee for the 6th APCPH and the 1st ASEAN Health Promotion Conference with its members as follow:

1. Prof. Dr. Karl Peltzer Chair
2. Asst. Prof. Dr. Thunwadee Suksaroj Vice-Chair
3. Asst. Prof. Dr. Cheerawit Rattanapan Secretariat

The scientific review committee consists of 6 conference sub-themes including:

1 Primary health care for sustainable development
   - Dr. Nate Hongkailert, ASEAN Institute for Health Development, Thailand
   - Prof. Dr. Masao Ichikawa, University of Tsukuba, Japan
2 Alliances for health and sustainable development
   - Dr. Orapin Laosee, ASEAN Institute for Health Development, Thailand
   - Prof. Dr. John F Smith, Khon Kaen University, Thailand /AUT University, New Zealand
3 Public health and disease surveillance
   - Dr. Seo Ah Hong, ASEAN Institute for Health Development, Thailand
   - Prof. Dr. Siyan Yi, KHANA, Cambodia/Toronto University, Canada
4 Determinants of diseases and epidemics
   - Asst. Somsak Wongsawass, ASEAN Institute for Health Development, Thailand
   - Dr. Sariyamon Tiraphat, ASEAN Institute for Health Development, Thailand
   - Prof. Dr. Michael Dunne, Queensland University of Technology, Australia
   - Asst. Prof. Dr. Tawatchai Apidechkul, Mae Fah Luang University, Thailand
5 District health system management learning: transformative learning
   - Dr Aroonsri Mongkongchart, ASEAN Institute for Health Development, Thailand
   - Prof. Dr. Kenzo Takahashi, Teikyo University, Japan
6 Health promotion, prevention and health protection
   - Assoc. Prof. Dr. Jiraporn Chompikul, ASEAN Institute for Health Development, Thailand
   - Assoc. Prof. Dr. Mee Lian Wong, National University of Singapore, Singapore
The scientific committee shall be responsible for the following:

- Review criteria for abstracts
  1. Fall into the area of public health
  2. Methodology
  3. Best practice, policy, evidence-based,
  4. Fall into one of the six key themes of the conference, as below
     - Primary Health Care for Sustainable Development
     - Alliances for health and sustainable development
     - Public health and disease surveillance
     - Determinants of diseases and epidemics
     - District Health System Management Learning: Transformative learning
     - Health promotion, prevention and health protection
  5. Give a score from 1 to 5, from
     5 = highest priority
     4 = high priority
     3 = acceptable
     2 = weak
     1 = not acceptable

The order is in effect from now.

The order was given on 15 February 2016

Prof. Supa Pengpid, M.Sc., Dr. PH., MBA
Director of ASEAN Institute for Health Development
Mahidol University
EMPOWERING AND MOBILIZING THE YOUTH FOR BIRTH DEFECTS AND PREMATURITY AWARENESS AND PREVENTION IN THE PHILIPPINES

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BACKGROUND
The Filipino youth (ages 15 to 30) correspond to 30% of the country’s population. As the country’s future leaders and parents, the youth is a viable and dynamic target population for a health promotion and advocacy campaign for the prevention of birth defects and preterm births. According to the WHO (2013), congenital anomalies and complications associated with preterm birth account to more than 40% of deaths during the neonatal period. Increasing the public’s awareness, especially among women in the reproductive age, about lifestyle choices on preventing birth defects, and reducing the risk of preterm labor can certainly help in reducing child and neonatal mortality in the country.

PURPOSE
Volunteer Youth Leaders for Health (VYLH)-Philippines was established in 2009 with the goal of creating a network of youth leaders and youth organizations in schools and communities in the Philippines that will champion in increasing public awareness on existing health programs and on the significance of a healthy lifestyle at an early age. The formation of the youth network is a response to the call of the March of Dimes Global Network for Maternal and Infant Health (MOD-GNMIH) to mobilize the youth for health and complement on-going national efforts directed towards the care and prevention of birth defects and preterm births, and the promotion of perinatal health.

METHOD
On July 2009, a national youth camp gathering 78 university- and community-based youth leaders was held through the collaborative efforts of the Institute of Human Genetics - National Institutes of Health, UP Manila, the Department of Health (Republic of the Philippines), and a student organization, The UPLB Genetics Society. Since its formation, Volunteer Youth Leaders (VYLs) were trained in the flagship advocacy programs of VYLH-Philippines which include the promotion of the importance of folic acid supplementation in the prevention of birth defects, prematurity awareness, and newborn screening. The network was also in the forefront of gathering public support for the passage of the recently enacted Rare Diseases Act of the Philippines (Republic Act 10747).

RESULTS/OUTCOME
VYLH-Philippines has continuously conducted volunteer orientations, trainings and workshops; developed print and accessible online resource materials; designed communication tools and strategies; organized community and school lectures, symposia, and exhibits; and established partnerships with local agencies and professional organizations. In the span of six years (2009-2015), VYLH-Philippines has trained more than 400 volunteer youth leaders representing more than 170 youth organizations nationwide. Aside from its year-round health promotion and advocacy projects, the network has also conducted national leadership congresses, orientations and youth camps for the recruitment and training of volunteer youth leaders.

CONCLUSION
At present, VYLH-Philippines remains as a focused and dynamic organization, and the sole youth network directed towards the promotion of birth defects and prematurity awareness and prevention in the Philippines.

Keywords: Youth Participation; Volunteerism; Preconception Health; Folic acid.
Since 2001, the Human Settlement Foundation Thailand (HSFT) together with Thai Health Promotion Foundation (ThaiHealth) has been working with homeless people, one of the most vulnerable marginalized populations in urban settings. The causes which drive people to become homeless vary: family rift, mental issue, disability, incarceration, HIV infection, ageing, etc. These causes go beyond failures of each individual, but are profoundly rooted by the unjust economic structure and the lack of the government’s appropriate support policies. Homeless people suffer privation and difficulty in daily life routines without proper access to fundamental public services and health care. Beyond the physical issues, homeless people suffer from hopelessness, which arises from their repeated fiascos and rejection from families and communities. Thus, it is imperative to restore their social security through capacity building program.

The HSFT takes four steps in working with homeless people: 1) Setting to know them, 2) Building successful cases, 3) Expanding work to other settings and 4) Supporting home and community establishment.

First, the HSFT starts by building relationships and trust. This process also deepens our understanding of the problems which homeless people are facing. When trust is garnered, we then support the formation of homeless groups through various tools, e.g. temporary public movie theater and conversations between the academics and the homeless. Next, we engage the groups to become part of the work for the homeless themselves, and help them experience successes. Some of the works that the homeless groups have actively participated include finding the land for a homeless shelter, formulating processes and mechanisms for the homeless shelter. One of the key factors for the success is to develop leaders among the groups and build their capacity through activities. To further enhance the groups’ capacity along with their self-esteem, we support the expansion of their work to other settings, exposing them to other groups of people. This process does not only help develop their capacity, but also proffer the public the chances to understand homeless people better and may lead to changes in their attitude toward homeless people. Some of the examples include the participation in projects in other provinces, i.e. Chiang Mai and Khon Kaen, volunteer project after the tsunami in 2004, the homeless survey in 2014, etc. Lastly, the HSFT supports the groups to build their own homes and communities while engaging them throughout the processes, i.e. collecting fund, collecting secondhand building materials, designing, planning, etc. Now, the Ministry of Social Development and Human Security has approved a budget to build 12 houses for 20 households on the land provided by the State Railway of Thailand (SRT). Overall, the formation of groups and networks between homeless people and also with other people in the society allows the establishment of their own united identity which can be clearly seen, fills them with hope, and empowers them to move forwards. Throughout our collaboration with them, it was manifest that homeless people are willing to work hard to change their lives and contribute for the better society for all.

**Keywords:** Homeless; Lessons Learned, Capacity Building, Networks
Background
Collaborative research has emerged in the past decades as a strategy to enhance the depth of understanding of problems, and the design and implementation of responses to said problems. Key forms of collaboration that have been discussed in prior work include multi-, inter-, and trans disciplinary research.

Objectives
This paper presents experiences on transdisciplinary research collaboration and participatory public policy development from an international project on lake environmental degradation and human health.

Methods
The research entitled “Managing Environmental Risks for Sustainable Food and Health Security in Watershed Planning in Lake Laguna Region”, also known as the Lake HEAD (Health, Environment and Diversity) Project, engaged researchers from the various fields of medical, physical, and social sciences in exploring evidences on, and solutions for the effects of the degradation of Laguna Lake (in Southern Luzon, Philippines) on population health and food security.

Results
Multi-disciplinary collaboration highlighted the initial phase of the research in which the researchers worked together but had varied activities and conclusions. The transfer of knowledge from one discipline to another was achieved during the succeeding phases through inter-disciplinary, and subsequently, trans-disciplinary research. Trans-disciplinary research collaboration entailed the engagement of community stakeholders in generating sound evidence for policy development. The Yaman ng Lawa (Blessings of the Lake) Initiative was launched as a mechanism for participatory public policy development to link the empirical findings with the needs of the community through policy dialogues between the researchers and community stakeholders.

Significance
Trans-disciplinarity facilitated deeper comprehension of the central problem of food and health risks, developed stronger links among mutual partners, and promoted prompt and more rational resolution of issues presented. In this respect, the end points of the research are not merely study findings but novel approaches, strategies, and knowledge that will empower people and communities towards healthy settings, healthy lifestyles and healthy populations.

Keywords: Trans disciplinary; Research; Policy development.
WORK ABILITY INDEX (WAI) AS INDICATOR FOR SUSTAINABLE OF OCCUPATIONAL HEALTH PERFORMANCE AMONG SMALL AND MEDIUM ENTERPRISES (SME) WORKERS IN INDONESIA

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The ability of a worker to perform his/her work influenced by various factors such as health condition, work environment, and work demand. This study aimed to examine the work ability and its related factors among SME workers in Indonesia. The results will be utilized to recommend future Occupational Safety and Health (OSH) policy to promote their work ability.

It used cross-sectional study with 492 respondents from SME factories (17 food industries and 13 garment industries) as samples. All of the industries had registered in Ministry of trade and industry, Indonesia. The work ability was assessed by WAI that consists of seven items: (i) current work ability compared with the lifetime best (0-10 points), (ii) work ability in relation to the demands of the job (2-10 points), (iii) number of current diseases diagnosed by a physician (1-7 points), (iv) estimated work impairment due to disease (1-6 points), (v) number of sick leave days during the past year (1-5 points), (vi) subject’s own prognosis of work ability after 2 years (1, 4 or 7 points), and (vii) mental resources (1-4 points). Each item was rated for the level of agreement. The summary points vary from 7 to 49. They are divided into four categories: poor (7 - 27 points), moderate (28 - 36 points), good (37 - 43 points) and excellent (44 - 49 points).

Most respondents were male workers (68.90%), married (70.12%), permanent workers (62.40%), smoking (52.85%), no work shift (95.93%), good work area condition (73.78%) while exercise was 34.76% and drinking behaviour was only 2.85%. WAI assessment showed most of workers was good (65.24%), excellent (18.50%), moderate (15.04%) and poor (1.22%). While, the bivariat analysis showed smoking (p=0.002), exercise (p=0.000) and work area condition (p=0.000) have significant contribution to work ability. These factors are important for considering OSH policy to promote work ability in food, textile, and other SME workers.

Keywords: Work Ability Index (WAI); Small medium enterprises (SME); Indonesia, Occupational Safety and Health (OSH).
THE RESEARCH ON ECONOMIC BURDEN OF SCHIZOPHRENIA DISEASE IN THE HOUSEHOLDS WITH THE PATIENTS IN HUE CITY

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Backgrounds:
Patients with schizophrenia is a severe mental disorder. The disease is chronic and tendency to relapse. The disease put a lifetime burden not only for patients and their families but also for society as a whole. The study is to estimate the cost of health care and lost productivity due to schizophrenia in the view of patients and their families, and to determine the economic burden of the disease on their household.

Methods:
This is a cross-sectional descriptive study. Cost data was collected by directly interviewing 172 patients with schizophrenia who have been being managed at 16 commune health centers in Hue city and their relatives. Direct and indirect costs for the treatment of schizophrenia in 2014 was estimated based on the perspective of patients and their families. The proportion of total cost to total income of household was calculated to determine the economic burden of the disease.

Results:
The average total cost of schizophrenia was 16,879,724 VND in 2014 (794.5 USD). Indirect cost accounted for 87.5% of this total. The average total cost accounted for 24.5%, 34.2%, 36.7% of the total income of the household classified as the normal, near poor and poor households in the year 2014, respectively.

Conclusions:
The monthly allowance of the government for the households with schizophrenia patients and the providing medicine free has reduced cost of the disease. However high unemployment rate among the patients put the economic burden on their households. An employment program for the patients may significantly improve economic of their households.

Keywords: Schizophrenia; Direct costs; Indirect costs; Economic burden.
CERTIFIED PSYCHIATRIC PHARMACISTS ROLE IN COMMUNITY PSYCHIATRIC PATIENTS CARE; A SURVEY STUDY

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Background:
In Thailand, there are not enough psychiatrists in the community of provincial hospitals. The local psychiatric care team staffs require psychiatric drug advisors. Therefore, a 23-week psychiatric training program aimed to improve skills for pharmaceutical care has been launched since 2011.

Objective:
To assess certified psychiatric pharmacists role, collaborative staff perception and factors affected the role towards community psychiatric patient care.

Method:
This study was a descriptive study. The participants were 55 certified pharmacists from the first to the fifth batch. Data were collected by using questionnaires comprised four parts for assessment of certified pharmacists and other staffs include pharmacy department chiefs, doctors and psychiatric nurses.

Results:
Most of participants were female (76%). They had bachelor or master degree certified with service experience from lesser than 5 years up to 25 years. They worked in varying positions and size of hospitals (10 to over 500 beds). We found they could apply their knowledge and skill in pharmaceutical care with psychiatric patients especially more than 50% have started to do intensive adverse drug events (ADE) monitoring and adherence monitoring (66% and 59% respectively). Before training, the normal ADE they could found were EPS, anticholinergic effects, GI side effects and over sedation. But after training they could assess others specific ADEs that occurred in psychotropic drugs only, such as postural hypotension, hyponatremia and weakness. Some had competency in coaching others staff in caring psychiatric patients (57%). Certified pharmacists' attitude about factors affected pharmaceutical care in psychiatric patients were management in pharmacy department, individual personality and hospital policy respectively. Trend of pharmacy department chiefs, doctors and psychiatric nurses' perceptions were the same. The first recognized pharmaceutical care activity by certified pharmacists was patient adherence monitoring and others were ADEs monitoring (pharmacy chiefs) and drug distribution (doctors). We found that pharmacist position and size of hospital had no significant relation with pharmaceutical care activities.

Conclusion:
The training program raised pharmacists' skill in providing pharmaceutical care for psychiatric patients. Others staff recognized pharmacists role in psychiatric patients care team. Although they were some factors affected their work but they could improve pharmaceutical care for psychiatric patients.

Keywords: Psychiatric; Pharmacists; Training program.
In 2015, the project of District Health Management Learning (DHML) has launched in Thailand targeting to train and develop project management competencies of health personnel and networks of health collaborators for supporting or running district health system.

This study aimed to explore perceptions and experiences of health personnel and networks of health collaborators in Kalasin province who participated in the 2015 DHML training project organized by Sirindhorn College of Public Health Khonkaen, located in the northeast of Thailand, acting as learning and coordinating center (LCC), about how to learn and improve their essential competencies in order to manage district health system.

A qualitative case study was employed. Purposive sampling was undertaken to select six districts in the Kalasin province, including Mueang Kalasin, Kuchinarai, Rong Kham, Kham Muang, Nong Kung Si and Sam Chai. Participants (n=42) were health personnel, nurses, local governors, health village volunteers and local people, gathering together as the district health learning teams (LTs) participated in the DHML project. Six group interviews were conducted to gain data. Thematic analysis was applied to analyze the data.

The results revealed that DHML, a 1-year project organizing with five workshops (3 days/workshop) and two field trips, allowed each LT brought one area-based health problem or issue to be learnt and solved together, playing as project-based learning, and also learned to develop and manage the project with others (e.g. expertise, administrators and/or key resource persons).

This type of learning was called “Participatory Interactive Learning though Action: PILA”. Regarding this particular learning of DHML, LTs could improve their essential competencies to manage district health system in terms of self-control, vision, planning, leadership, good relationship between health personnel and networks of health collaborators, decision making and problem solving, and teamwork. In conclusion, DHML could lead to create learning innovation as transformative learning for adult and health personnel, and also improve essential competencies for managing district health system of health personnel and networks of health collaborators in Kalasin province.

**Keywords:** Perceptions, Experience; District Health Management Learning (DHML); Project management competencies
The process of District Health Management Learning (DHML) of NongKhai Learning Center has been started in 2015. The District Health System (DHS) policy has been addressed around 2014. NongKhai Provincial Health Office has received funding support to organize DHML process in 2015 from the National Health Security Organisation (NHSO) region 8. First start of DHML has been set two learning center together including Nongkhai and Bueng Kan provinces. Finally, each learning center prefer to do DHML process separately. NongKhai DHML learning center has been organized by NongKhai Provincial Health Office and Thabo Crown Prince Hospital. Five learning teams cover 5 subdistricts within 5 districts, NongKhai have learnt DHNL process including Thabo district, Phonpisi district, Sakri district, Srichiengmai district, and Photak district. Each learning team has 10-15 persons from various sectors such as the chief of district health sector, family doctors, public health staff, nurses, pharmacists, physical therapists, Thai traditional Medicine staff, the leaders of communities, Chief Executive of the subdistrict administrative organization, academic institution staff, community development staff, non-formal education staff, community enterprise groups, and others. The NHSO, region 8, Boromarajonani College of Nursing Udon Thani participate as academic institutions to support learning teams. Five learning teams gain experiences of DHML process by learning together and they have learnt from the best practice of DHS from Lumsonthi district. Five learning teams have selected the learning issues focusing on home bound and bed bound groups, disable groups, mental health problem groups, and palliative care. Five learning team set 5 leaning activities to share, to gain experiences, to utilize of knowledge, and to improve the quality of care for target groups that they have learnt via DHML process.

The findings showed the DHML learners have 6 main performances and they gain experiences more than expectation. The main performances that the learners got so much are about self control, value and relation capacities. The performance of teamwork has increased cause from the effectiveness of communication in horizontal and vertical parts. The 5 learning teams have 4 shadow performances and the success of these learning teams is developing learning team-network based on keywords Participatory Interactive Learning through Action (PILA-ONE) that they have share thinking – share doing – and share learning together.

The PILA-ONE network utilize DHS model development that suit for target groups and community context. Many strategies such as teamwork-network- participation- in horizontal and vertical parts encourage NongKhai learning team moving on DHML process to success. Further, participation from various sectors as matrix links is one of key factors to promote DHML process and effects to quality of care as person centred care. The recommendation for practice that should be strengthen PILA-ONE network and learning teams should be trained to analyze, and synthesize of learning outcomes. Team coordination between Learning and Coordinating Centre (LCC), Academic institution (AI), and Learning team (LT) should be developed continually to improve DHML process.

**Keywords:** District health System; Nong Kai, Learning.
Dengue activity of Suan Phung district. Statistics from the disease three years until the year 2556 to 2558 found the epidemic trend higher. By the year 2558 there were 426 dengue cases (morbidity 1242.27 per hundred thousand population). Number 3 deaths (case fatality rate 8.75) in the same period of 2558, with the number of cases over the year 2557 was 247.28 (3.36 folds). This is a problem the top level, district level, Province level. The such issues has the potential partners in the area of health issues, prevention and control of dengue fever based on Suanphueng District Health System. The objective is to create a mechanism for integrating the health promotion. (A participatory management) based on Suanphueng District Health System, Ratchaburi Province. The issue ODOP (prevention and control of dengue fever) is a link between the public sector. Local authorities, private and public sector. As well as the management of their own strength. With potential partners on the roles of each party. The strategy "collapsed and blossom out" and "blossom out and collapsed" five steps below. Step one is "collapsed and blossom out" is a relationship between the key management areas. Step two structuring operations in a comprehensive, multidimensional, taking into account the relevant inputs and cause most policies contain and convey. The board / committee-driven. And resource and technology. Step three goals and action plans in the district. Step 4 Navigating the healthcare system driven Suanphueng district into practice at various levels. Step 5 is "blossom out and collapsed" this process is concluded and the lessons of each district. And management of the district As well as at the district level. Operating results showed that patients with dengue fever at 31 July 2559 the overall decline in Suanphueng district (22.16 versus a median 5 years (257.29)) and the number of deaths 0. The success of health system management district Participatory Management of potential partners in health. As a result the prevention and control of disease is greatly reduced. No luck, as many people think. The operating result after this will have to take on the next track. The issues that people can have basic self care. The topography and climate Of Suanphueng A major factor contributing to the occurrence of dengue fever. Operating a network to work out their own role as an important issue. In addition to the reinforcement already in operation. There was also a learning organization with international operations.

**Keywords:** District health management; Suanphueng; Dengue.
The social capital of UCARE: The key findings for challenging of district health system management learning

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There are multiple effective district health system teams in the Health Region 4. Their tacit knowledge was not revealed. Appreciated evaluation and rapidly focused ethnographic study were applied to explore their achievements of managing district health system. For applying appreciation evaluation, district health system teams would be encouraged and proud of themselves.

The study was conducted during January - October 2015 by using focus groups and in-depth interviews of 324 participants, including local governments, volunteers, elderly group, diabetes mellitus and hyper tension people, and family caregivers. The researchers presented their experiences based on the concept of health districts unity of district health team, community participation, appreciation, resource sharing and human development, and essential care. Then, the data was send back to the 10 district health system teams to verify.

The study found core outstanding issues of successful managing health districts system which supported UCARE concept. That concept was applying social capital in management including morals, honor, gratitude, compassion, generosity, engagement, learning together regularly, and appreciates their successfulness. Development by using social capital contributed to innovative health management based on their context, responding to their need, and working by themselves. Finally, it will contribute to the sustainability of district health systems.

Recommendations of this study are learning team of district health system network should be seeking that social capital to implement and learn for transformative their team to accomplishment humanized health care.

**Keywords:** District health system; Knowledge management; Social capital, Focused ethnographic study.
Developing Knowledge Sharing in Home Health Care Services of Primary Care Providers in Southern Thailand

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Background: Primary care network in southern region through DHML project comprised of 4 districts in Nakhonsithammarat provinces. The concept of network had been applied for this program by recruiting 4 district health areas. Sichon district took main part of the program as learning and coordinating center (LCC) accompanied with Thasala, Noppitum, and Chawang district as learning teams (LT). The topic of home health care was the main issue in knowledge sharing process. At the end of each visit, we would summarize the lessons we had learned and good practice in home care.

Objectives: The purpose of study was to determine the efficacy of knowledge management process for home health care program of primary care provider in upper southern Thailand.

Methods: This was research and development study of 48 primary health care providers working at the primary care units in 4 districts of Nakhonsithammarat province between June 2014 and May 2015. Data collection included the assessment of knowledge, attitude, and practice of patients’ home visit and synthesized the lessons from primary care providers. Knowledge management was applied by sharing and learning process. We organized 5 visits of sharing experiences between health care providers, local government representatives and local health volunteers. A comparison of the results of practice before and after the use of this process was the outcome measured.

Result: Knowledge sharing network had been established. The knowledge, attitude and practice of primary care providers increased to 92.25%, 86.50% and 88.25% respectively; moreover, they tended to participate more in taking care of their patients with holistic approach. Overall satisfaction rate was 90.35%. Experiences sharing had been done in each visit. The first visit revealed that there were different pattern in home care. We found that the steps of home care was essential and should be used in every case. The second and third visits, we focused on multidisciplinary teamwork that should be shared and learned each other. Reviewing the skill in nursing procedures was necessity. The fourth and fifth visits, we learned the experiences of community involvement and how to organize informal team for patient care in community. The participation of village health volunteer was the important factor for sustainment. Each visit we extracted the lessons and found that continuity of care was crucial issue and holistic care should be integrated in primary care practice.

Conclusion: This study demonstrated the benefits of this program for home health care services. Knowledge sharing could apply in routine work for benchmarking good practice within primary care network. Potential health care providers were encouraged by reviewing practical maneuvers. Community involvement was a key success factor in home health care. The core concepts of family medicine were essential and necessary for primary care workers.

Keywords: Primary care; Knowledge management; Home health care; DHML
VISUAL METHOD IN CAPTURING THE HEALTH DETERMINANTS

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Background:
Determinants of health are the range of personal, social, economic and environmental factors which determine the health status of individuals or populations and in some cases, is beyond the control of individuals and community. This burgeoning discussion topic is closely related to promoting health equity which remains a major global public health challenge.

Aim:
This paper aimed to describe the use of photography as an expression of determinants of ill-society.

Methods:
The author used a visual method to explore real-life conditions in the country of Nepal, and record throughout the journey taken in 2014. In some circumstances, visual methods may invoke a more convincing evidence of the phenomenon of interest.

Outcome:
The author’s impression of the excursion was an unliveable-city of the future. As a representation, a handful of photographs was utilized as data which “speaks for itself” in depicting the impact of rapid industrialization and urbanization on a developing city. This includes adaptation to the environmental pollution by the locals.

Conclusion:
Health may not be the main area of concern for policies in the sectors of industry, transport, housing, finance, education and agricultural, however these areas have strong bearing on health and health equity, therefore framing related policies and interventions is essential. Rapid urbanization and economic growth in a country needs to strike a balance with the population health, in order to foster a sustainable urban development.

Keywords: Health determinants; Health equity; Visual research.
CHARACTERIZING THE RELATIONSHIP BETWEEN CLIMATIC FACTORS AND DENGUE FEVER IN THUA THIEN HUE PROVINCE, VIETNAM

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Background:
Dengue is a mosquito-borne viral disease of increasing public-health concern worldwide. Several studies have assessed the impact of weather and climate on dengue in Vietnam and in other parts of the world, which will help providing surveillance and prediction tool for the disease.

Aims:
(i) to describe the distribution of Dengue fever in Thua Thien Hue province in 2010-2015,
(ii) to explore the influence of climatic factors on Dengue fever cases.

Methods:
Case series and ecologic studies were used. Poisson regression was used to examine the association between the incidence of Dengue fever and climatic factors.

Results:
During the study period, 6,635 cases of dengue fever were reported. Approximately 86% of cases were reported from July to December. After adjusting for seasonality the incidence of dengue fever was significantly associated with the following factors: The risk of dengue was also associated with elevated temperature (RR: 1.40; 95% CI: 1.36-1.43 per 1°C increase), higher humidity (RR: 1.79; 95% CI: 1.69-1.90 per 5% increase), and higher rainfall (RR: 1.04; 95% CI: 1.03-1.04 per 50 mm increase). The risk of dengue was inversely associated with duration of sunshine, the number of dengue cases being lower as the sunshine increases (RR: 0.79; 95% CI: 0.75-0.83 per 50 hours increase).

Conclusions:
These data suggest that rainfall and relative humidity as well as temperature could be used as ecological indicators of dengue risk in Hue. Intensified surveillance and disease control during periods with high rainfall and humidity are recommended. This study may provide baseline information for identifying potential long-term effects and adaptation needs of global climate change on dengue in the coming decades.

Keywords: Dengue fever; Thua Thien Hue province; Vietnam; Climatic factors.
Film is a global entertainment industry, especially Hollywood movies have a substantial market in Asia. For example, there are almost 400 foreign movies imported to Taiwan every year, and the foreign films are about 80% of the total released films in Taiwan.

In the past, whether the smoking scenes or acts appeared in the movie would impact the youth smoking behavior has been confirmed in many studies (Charlesworth et al., 2005). But most of these studies were based on Hollywood movies. In Taiwan, the systematic and long-term monitoring the smoking messages in movies began in 2008, academic study commissioned by the Health Promotion Administration, Ministry of Health and Welfare. The study takes from the average of annual monitoring of Taiwan top 100 movies.

The study has three main purposes: 1) comparing the tobacco messages revealing in foreign and Mandarin movies during 2008 and 2015; 2) comparing the frequency of tobacco messages exposure among 4 grades in Taiwan film classification; 3), requesting the worldwide film producers pay attention to the tobacco message exposed in their films.

Key findings of this long-term study in Taiwan, for example, show that tobacco messages exposed in 25% of the popular 100 movies every year. Perhaps because Chinese society idolizes the smokers, there are more smoking messages exposed in Mandarin movies than foreign movies, but when there is smoking message exposed in foreign movies, its frequency is more than Mandarin movies. Other than that, there are more smoking scenes in the adolescent related three grades (general grade, counseling grade and protection grade) than R grade. This shows that the risk of exposing youngsters to the tobacco damage is from, not just Hollywood movies. The findings are worth the attention of global tobacco control groups.

**Keywords:** Smoking Scenes; Tobacco Exposure; Adolescent and Tobacco Damage; Mandarin Movies
Knowledge, Attitude and Practice regarding environmental tobacco smoke among pregnant women of Sunsari: A Cross sectional study

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Background:
Second hand tobacco smoke, Environmental Tobacco Smoke (ETS), is a combination of mainly side stream smoke released from the burning end of a cigarette and from partly exhaled mainstream smoke. Studies showed that side stream ETS smoke actually contains higher concentrations of certain toxic chemicals, including several cancer-causing ones than do mainstream smoke. ETS exposure of pregnant women is of a particular concerning, as it causes serious consequences for mother-infant pair, and has long-term consequences for children throughout in childhood and into adulthood.

Objective:
1. To explore the knowledge about harmful effect of ETS exposure in pregnant women
2. To know the behavior of avoidance from exposure to ETS during pregnancy

Methods: A cross sectional study was conducted among 303 pregnant women, purposively chosen from District Hospital Inaruwa and BPKIHS Dharan. A pre-tested semi-structured questionnaire included sociodemographic characteristics and knowledge attitude and practice of Environmental tobacco smoke. Data was entered in Excel and analyzed in SPSS 11.5.

Results: Mean age of the pregnant women was 23.86% with primi-gravida 53.5% and multi-gravida 46.5%. Illiteracy rate among pregnant women was 14% and 91% were unemployed. Husband’s education was 88%. Those living with the joint family were 75% where 86% of their husbands were smoker. 61% of pregnant women had heard about ETS mainly through TV 35% and Radio 30% but 39% believed that ETS is less harmful than active smoking and 86% of the family had done something against smoking.

Conclusion: There is a higher rate of unemployment among pregnant women along with the illiteracy. Most of them had heard about ETS but two fifths believed that ETS is less harmful than active smoking. Most of the pregnant women lived in a joint family where the husband is the smoker and majority of the family did something against smoking.

Keywords: Environmental Tobacco Smoking; Pregnant Women; KAP
Decolonizing Public Health: Transforming understandings and outcomes of Indigenous peoples’ health and wellbeing

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Background:
Colonization, as a historical and contemporary process, is at the root of health inequities experienced by Indigenous peoples in many countries, including Australia, Canada, New Zealand and the United States of America. To improve the health status of Indigenous peoples, embracing effective approaches to health promotion requires decolonizing practices. Decolonization does not mean a complete rejection of all Western knowledge. Rather, it is about centering Indigenous concerns and worldviews within a health promotion context.

Aim:
This presentation is based on a peer-led, community-based action research project by and for Indigenous youth on the pow-wow trail in southern Ontario, Canada. The research illustrates how moving away from conventional public health approaches and towards a decolonizing approach can empower Indigenous people, and improve Indigenous peoples’ health outcomes.

Methods:
Quantitative data was collected using an offline iPad survey administered to 154 Indigenous youth in southern Ontario aged 16 to 25. The aim of the survey was to quantitatively test the feasibility and cultural appropriateness of an Indigenous youth lead, sexual health promotion intervention in powwow settings, and evaluate the appropriateness of the strategy. The survey responses were exported to SPSS for statistical analysis, including examining means, frequencies, and standard deviations.

Results:
This project provides preliminary evidence that supports decolonizing public health approaches that encompass Indigenous ways of knowing and doing, implemented by and for Indigenous peoples in a local context. Survey results indicated that this peer-led, community-based health promotion intervention increased participant’s likelihood of engaging in safer sex practices, and that culture was fundamental to public health approaches in an Indigenous context.

Conclusion:
By acknowledging colonization, this presentation demonstrates why and how moving away from a conventional public health approach can improve Indigenous peoples’ health. Health promotion strategies must be decolonized and integrated by Indigenous peoples into their own disease theories and contemporary culture. Decolonizing health promotion that is centered around Indigenous ways of knowing, can transform understandings and outcomes of Indigenous peoples’ health and wellbeing in Canada, and internationally.

Keywords Indigenous, Decolonization; Health Promotion; Indigenous people.
Healthy Living Practices in Families and Child Health in Taiwan: 5 Years follow-Up Study

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Background
Child Healthy Living Practices in Families (CHLPF) has been found to be effective to promote children’s health at age 3, specifically in disadvantage families. The longitudinal study is proposed to examine if the effect can persist through early childhood.

Objectives
To investigate whether this inexpensive and feasible healthy living practices in families can have long lasting effect of health promotion and continue to mitigate the impact of poverty on children’s health.

Methods
This study used two waves of data from the Taiwan Birth Cohort Study consisting of a nationally representative sample of 18,553 children at age 3 and 8. The Pearson Chi-Square test was conducted to compare the prevalence of good health between CHLPF levels at all income levels. The Multivariate Logistic Regression analysis was performed to test the relationships between the CHLPF levels and children’s health.

Results
The findings indicated that good CHLPF was significantly and consistently associated with children’s good health, regardless of children’s age. However, the impact of CHLPF on children’s health appears to be more prominent in an earlier age. At the age of three, children with high CHLPF level have more than two times of likelihood to have good health, compared with the ones with low CHLPF level. There was 61% increase in the odds for good health for children with high CHLPF level at age 8. Moreover, for the prevalence of having good health, the discrepancy between CHLPF levels in low-income group has been consistently larger than those in high-income group across the five years. The prevalence of good health of children who were in high-income families with low CHPLF level has remained lower than that of children who were in low-income families with high CHPLF level at age 8.

Conclusion
The effect of CHLPF has been persistent on children’s health and gets paramount in low-income families. The impact appears stronger in an earlier age, which means that developing healthy living practices in earlier stage is imperative and leads to positive consequences on children’s health later on. The findings proved that the inexpensive and feasible CHLPF can consistently promote children’s health and broaden the opportunities for disadvantaged children to pursue health equality.

Keywords: Health living practices; Child health, Family; Poverty; Social inequality.
Screen Time, Physical Activity, and Overweight for Children: Do Parental Modeling and Restriction Matter?

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Background and Objective
Nowadays, overweight has become a critical health issue for children due to prolonged screen time (ST) and reduced physical activity. As primary caretakers, can parents make a difference in this situation? The purpose of this study is to examine the influence of children’s ST on physical activity and overweight while parental modeling and restriction are taken into consideration.

Design
This is a cross-sectional study. Logistic regression was utilized to examine the influence of children’s ST on their PA and overweight and whether their parents’ modeling and restriction mediated the association.

Setting: Two elementary schools in Yi-Lan, Taiwan.

Participants: 962 children from first grade to sixth grade.

Main outcome measures: Child physical activity level, overweight status

Result
54.7% of children exceed recommended daily ST. Those children were 3.40 times less likely to meet recommended physical activity level and 5.11 times more likely to be overweight than their counterparts; more specifically, the effect is stronger for girls. Parental modeling (measured by parents’ ST) is proven to be significantly associated with children’s PA but overweight while parental restriction is not significantly related to either one. Children whose parents have high level of daily ST are 1.59 times more likely to fail to meet physical activity recommendation than their counterparts with control variables adjusted.

Conclusion
Children failing to meet ST recommendation were less likely to meet physical activity recommendation and tend to be overweight. Reducing ST during childhood may be a feasible strategy for increasing levels of physical activity and reducing overweight, especially in girls. For parents, restricting children’s ST is not as effective as being a role model, by showing children with low screen time usage their own, to improve their children’s physical activity and health.

Keywords: Screen time; Physical activity; Overweight; Parents; Children.
Elimination of Malaria - Bangladesh Perspective

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Malaria Control Programme BRAC, Bangladesh

The vision of WHO and the global malaria community is a world free of malaria. As part of this vision, WHO has set goal and targets for the Global Technical Strategy for Malaria 2016-2030. One of its goals is to eliminate malaria from countries in which malaria was transmitted in 2015. Target set for the goal to eliminate malaria from at least 10 countries within 2020, at least 20 countries within 2025 and at least 35 countries within 2030.

Despite some progress in achieving the MGD targets, malaria is still a health burden throughout the world and it remains endemic in all six WHO regions. Most of the cases occurred in the WHO African region (82%), followed by the WHO South-East Asia region (12%). About 1.4 billion people are at some risk for malaria resided in the South-East Asia region. And the proportion of cases varies greatly within the region.

Malaria is a public health problem in some parts of Bangladesh. Out of 64 districts in the country, malaria is endemic in 13 districts and 13.25 million people are at risk. The three Chittagong Hill Tract (CHT) districts and adjacent Cox’s Bazar district reports most of the cases and deaths. Very few cases and deaths are reported from other low endemic 9 districts. Among them, four districts – Mymensingh, Netrakona, Sherpur and Kurigram have shown <5% malaria positivity rates (RDT and Microscopy) over last three years. NMCP has changed its strategy in the NSP-2015 to 2020 that shows paradigm shift from control to phased elimination by 2020. Accordingly, pre-elimination strategies have been adopted in these four districts with an aim to gradually expand to the other moderate endemic and high endemic areas.

A steady progress was observed in reducing malaria morbidity and mortality since the inception of the Global Fund supported malaria control programme in partnership with GO and NGOs since 2007. But in 2014, there was a sudden rise in of both cases and deaths especially in the CHT districts and its adjacent areas. Similar upsurge was observed in neighbouring states of India and some other countries in the region. Although the causes of the upsurge is not certain but it is speculated that the change in rainfall pattern and temperature might have favoured the vector breeding. This situation has put us on the back foot in terms of our ambition towards elimination within such a short timeframe.

Keywords: Malaria; Bangladesh; elimination
Although the public health sector in Bangladesh faces many challenges, it is the only hope for the rural mass. Eye health care services are supposed to be provided by government district hospitals located in each district so that they are accessible and affordable by the rural poor but unfortunately this is not always the case. Common challenges include unavailability of appropriate equipment and consumables, vacant post of Ophthalmologist, untrained ophthalmic workforce, equipment maintenance and so on. Building the capacity of ophthalmic teams, supporting infrastructure and equipment, supporting demand side financing are all sustainable ways in which eye health care can be improved in these facilities. This paper examines interventions carried out in eye units of ten such government district hospitals in Bangladesh. Interventions were carried out in the areas of Infrastructure, Equipment, Human Resource Development, and Social Mobilization & Communication Campaign. The objective of this study is to assess the sustainability and replicability of eye care models in a district hospital setting. A five-year project was implemented by The Fred Hollows Foundation from 2008-2012, followed by an ‘Exit Strategy’ project which spanned another three years from 2013-2015, to improve the capacity of these ten eye units. The end of eight years saw a silent eye health care revolution in the project locations. Data from Health Management Information System from these ten districts was analyzed. Data was cross-checked with Civil Surgeon and Ophthalmologist of respective district hospitals for authenticity and accuracy. These data are also consistent with the database maintained at National Institute of Ophthalmology & Hospital. After systematically analyzing four years of data, i.e. from 2012 – 2015, it was seen that eight out of ten eye units were functioning independently and sustainably with full support from the government. Most eye units were operating at the highest rate in decades. The number of patients screened and cataract surgeries performed had more than doubled (in few districts, these figures increased more than 7 times). Gender focused interventions saw an increase in the number of women accessing eye health care. The quality of eye care services did not go down. Most Ophthalmologists reported that eye patients in their private chambers escalated as well, indicating that the promotional campaign was successful in not only channelling patients to the district hospitals but also encouraging them to pay out-of-pocket to avail private services. A Vision 2020 committee held quarterly meetings at each district hospital to share information, discuss work progress and resolve issues. This paper provides evidence that this eye care model will work at any secondary level public health care facility in Bangladesh. This model can be replicated by public and private organizations in other districts of Bangladesh. From evidence produce in this paper, it is shown that there is greater likelihood that this model will continue to function independently even after project phase out, given that the government continues to pay for level of effort of ophthalmic team, provide uninterrupted flow of consumables & medicines and provide other such necessary support.

**Keywords:** Bangladesh; Eye health; Health system; District hospital
HP0014

Intensify the Tuberculosis Control Interventions and Improved Treatment Outcome Through Patient Centered Care: BRAC Experience

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Introduction/Rationale:
TB is a communicable disease caused by mycobacterium tuberculosis and is a major public health concern in Bangladesh. BRAC, a development organization initiated community based tuberculosis control programme in 1984 in one sub-district to control TB. This model was gradually expanded since 1994 in collaboration with National Tuberculosis Control Programme (NTP) and currently covering two-third of the country with 93 million populations. Considering the long treatment duration, community based interventions intensified throughout BRAC implementing areas to increase TB case notification, to improve treatment success rate and to minimize unfavorable treatment outcome.

Methodology:
BRAC expanded peripheral laboratory facilities with solar system in very remote areas to increase the identification of smear positive TB cases. Outreach sputum collection centers are organized in hard to reach areas to improve the access to diagnosis. BRAC’s frontline health workers known as Shasthya Shebika (SS) plays an important role in implementing community based DOT. They disseminate TB messages in the community during household visits and refer TB symptomatic for sputum examination at NTP designated laboratories. Treatment of all TB patients is initiated by graduate medical doctors and daily DOT is ensured by Shasthya Shebika. BRAC’s health workers give proper counseling and motivation to the TB patients for daily DOT and ensure follow up sputum examination timely during the course of treatment to see the prognosis. Those with persistent TB symptoms and negative smear referred to higher level health facilities for X-ray, FNAC and biopsy.

Results:
Additional 19,037 outreach sputum collection centers were held between January 2012 to December 2015 and established referral linkage with 5,132 graduate medical practitioners through networking meeting. A total of 11 peripheral laboratories with solar system were expanded to cover hard to reach areas. Significant number of DOT is ensured by these Shasthya Shebikas in BRAC covered area, service intensification result improved case notifications from 91,703 in 2011 to 135,426 in 2015. In 2014, among 72,231 pulmonary patients, <1% were lost to follow up as patients are living with family during the long treatment period. TB Case notification of infectious cases in hard to reach areas also increased from 73/100000 population in 2011 to 83 in 2015.

Conclusions and recommendations:
To address the socio-economic barriers is crucial for tuberculosis control as it is linked with poverty. Patient centered approach by involving community people as service provider regarding TB control found to be effective in better treatment outcome among infectious cases. Contact screening/investigation of infectious TB cases added additional value in early diagnosis and prompt initiation of treatment at the community which will help in reducing the transmission of infection. Treatment staying at the community level showed better result in maintaining high cure rate and finally reducing the lost to follow up cases.

Keywords: TB; Treatment outcome; Contact screening.
Effectiveness of Peer Educator As an Alternative Education of Reproductive Health for Adolescent

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Background:
Adolescence is a time of transition, during which young people are no longer children but have not yet assumed as adult. Adolescents, young people have complex problems with their puberty. Indonesia Demographic and Health Survey (IDHS) in 2012 showed that young women who do not realize sign of their physical changes were about 4.7%. This figures is lower than IDHS in 2007 (13.3 percent). Six percent of young women do not know their fertile period. Only 31% of young women and 19% of young men respondent gave the correct response, that is, a woman has the greatest chance of becoming pregnant halfway between her periods. RPJMN survey results in 2010 showed there were 28% adolescent exosed to information PIK-R/Youth Information and Counseling Center. It means only 28 of 100 adolescent’s access to activities related reproductive health information. Adolescence is the most potential age group to be given early education in order to reduce reproductive health problems in the future. One alternative solution by the Indonesian Government in overcoming the complexity of the adolescent’s issues is peer educator.

Objectives:
The authors are interested in reviewing the effectiveness of peer educator approach as an alternative education of reproductive health for adolescent, in order to overcome the problems of reproductive health in Indonesia.

Methods:
This research used experimental methods by giving education to adolescents by peer educators. The materials include reproductive organs of men and women, how to care for and clean reproductive organs, Sexual Transmitted Diseases, and some related materials. The activity begun by dividing the subjects into several groups, then subjects answered the pre-test questions, peer educators presented related material, and finally the subjects answered the post-test questions.

Results:
The scores of pre and post-test were analyzed by paired T-test. The results showed a significant difference between subjects’ level knowledge before and after intervention, proven by P-value < 0.0001.

Conclusion:
Peer educator has been proven to be effective as an alternative to increase the knowledge related to adolescent reproductive health. Peer educator should be expanded to other regions in Indonesia.

Keyword: Adolescent; Reproductive Health; Peer; Educator.
The Taiwan Adolescent to Adult Longitudinal Study (TAALS): An Introduction of Methodology and Findings

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Background:
Adolescence is the most important developmental period for pre-adult health behaviors. Many health problems and chronic diseases in elder are highly correlated with adolescent health-risk behaviors. Most of the longitudinal surveys on youth in Taiwan, however, were small scale, and may exist estimation bias when we extend to nation-wide adolescents, those of which may also laboriously examine the causal effect on disease due to the lack of medical record.

Objectives:
The Taiwan Adolescent to Adult Longitudinal Study (TAALS) project was developed to provide a nation-wide survey database on the youth health behavior, which will link with the National Health Insurance Research Database (NHIRD) to obtain a complete medical record of respondents in future based on studying subjects’ content. The goal of the study is to introduce the methodology of TAALS project and its primary finding.

Methods:
The TAALS project employed a sampling method of the principle of probability proportional to size (PPS). We controlled the high quality through experts’ review to enhance the validity of questionnaires, performed pilot study to make sure that survey procedure were well-defined, and employed professional interviewers to ensure that survey protocol and process would be identical and well-executed across the schools.

Results:
Data were collected by questionnaires from 18,649 school students who participated in the first wave in 2015, with a well sample representation via goodness of fit test after weighting adjustments. The internal consistency reliability of questionnaires which were utilized to measure mental health, bullying, and social support ranged from 0.75 to 0.91. The missing rate for each item of questionnaire was lower than 3%. Our primary findings showed that electronic cigarette use have become popular. Nearly 12% students have ever used electronic cigarette, of which 28.18% are current users. Exposure time to 3C products of students was long (nearly 55% of students had spent over 2 hours per day). Moreover, exposure to pornographic media were getting younger (28% of students have seen pornographic media in primary school).

Conclusion:
The TAALS is the most complete cohort survey of youth health behavior in Taiwan. It not only possessed high validity and reliability, but also can serve as a foundation for analyzing health trajectory of Taiwan adolescent.

Keywords: Adolescence; Health Behavior; Cohort Study; TAALS.
Knowledge Management for good Practices in decreasing Metabolic Syndrome and Risk Factors

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Research to determine best practices for reducing heart disease & metabolic syndrome by using the consumption of diet, increase exercise and adaptive mood (3E) get rid of drug-addict and alcohol, Boromarajonni College of Nursing, Ratchaburi. Collect data from the staff of the college of 110 people from December 2014 - December 2015. Data analysis for, SD and compare the results of a physical examination before and after the test cases by cases.

The research found that people aged 35-55 years old 74 percent, with chronic diseases 34 persons 46.57 percent, behaviors of consumption, increase both meals and amounts, eating sweet, salty, spicy, fried beverages containing sucrose increased. Eat more fruits and vegetables, reduced Exercise, more Control stress more People with acquired disease. A teacher of 13 people, supporting 21 people, after the completion of the operating by using 3E in 34 people showed that the blood pressure has exceeded the standard, down from six people to two people, the Cholesterol down from nine people to three people. Triglyceride down from 11 people to two people, the BMI exceeded 24 were still 24 people, same waistline exceed 11 Add as 13 people, 15 people weight gain around three months and 8 people weight loss.

Conclusion for best practice in reducing heart disease & metabolic syndrome is reduced the extra weight and BMI by changing consumption habits. To diet lower than and increasing exercise to raise metabolism, in the principle balance of life is to utilizing energy equal to consumes energy. By reducing energy from the diet, such as: Trans fat, the flour, sugar, soft drinks, desserts, eating more fruits and vegetables, 2-3 servings / day to lose weight. The most effective in the long term is to reduce calories. The diet should be decrease 500-1000 calories per day to lose weight. The right target is to reduce the weight by at least 5-10 percent range. 6-12 months, and increasing physical activity 20-30 minutes/ 5 days / week. It is necessary to have joint exercises with reduce the weight.

Suggestion
Policy, should have policies in decrease food intake, salty, sweet, soft, and increasing exercise for body fat off etc. Academic knowledge should be managed in the promotion and protection of the principles of 3E, continued until proper behavior. Research should research knowledge about how Thai food good for healthy, disease-free. The cultural Should be encouraged to eat Thai food and maintain identity and promote Thai food to the world food.

Keywords: Metabolic syndrome; BMI; Hyper-lipidemia
Neighborhood Disadvantage, Socioeconomic Gradients and Oral Health of Adolescents: Advocating for Health Promotion through Proportionate Universalism

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Objectives:
Overall objective of this study was to assess whether there are socioeconomic gradients in various oral health outcomes (caries experience, decayed teeth, traumatic dental injuries and oral hygiene) of adolescents, 12-15 years of age living in the city of New Delhi, India and to assess the various material, psychosocial and behavioural factors influencing this gradient.

Methods:
A cross sectional survey was conducted with a sample of 1386 adolescents living in 3 diverse residential areas of New Delhi (urban slums, resettlement colonies and middle class homes). Clinical examination was undertaken and an interviewer administered questionnaire was used to gather relevant clinical, behavioural and social data. Zero Inflated Negative Binomial and logistic regression statistical tools were used for analysis.

Results:
Adolescents from middle class homes had the lowest mean DMF score 0.96 (95% CI 0.82-1.21), followed by the adolescents from resettlement colonies (DMF 1.38, 95% CI 1.23-1.54) & adolescents from urban slums respectively (DMF 1.74, 95% CI 1.55-1.93). Odds of an adolescent being caries free or decay free decreased when one moved from adolescents from middle class group to adolescents from resettlement colony or urban slums. The gradient was less pronounced for dental trauma with the least prevalence observed in adolescents from middle class homes (5.8%). Material deprivation, social capital, social support and health related behaviours had a negligible effect on the socioeconomic gradients if area of residence was taken as explanatory variable.

Conclusions:
We found strong evidence that dental caries, dental trauma and oral hygiene were significantly associated with neighborhood disadvantage independent of individual socioeconomic position. Area of residence emerged as a very strong predictor of oral health. Policies aimed at improving the living and working conditions, providing sanitation, supply of safe drinking water and nutrition status will prove to be very effective in reducing inequalities in health in general and oral health in particular. To reduce the sharpness of the socioeconomic gradients in various oral health outcomes, health promotion actions should be with a degree and intensity that is proportionate to the level of disadvantage, denoted as proportionate universalism.

Keywords: Oral health; Socioeconomic position; Health promotion.
Barriers to calcium consumption among female lower secondary students in northeast Thailand

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Background:
Sufficient calcium consumption during adolescent age is significant and shows to prevent osteoporosis later in life. Based on some previous studies, Thai adolescents consumed calcium lower than Thai recommended daily intake (TRDI). Objective: The aim of this study was to elicit the barriers to calcium consumption among female lower secondary students (12-15 years old) in northeast Thailand.

Methods:
One lower secondary school (Grade 7-9) was selected to represent suburban lower secondary schools in the northeast Thailand. An interview guideline was used to collect data from 22 participants. Content analysis was used to analyze the data. The interviews were conducted between 7 and 31 January 2016.

Results:
Among participants, milk and whole small fish with edible bone were the only perceived sources of calcium. Almost all participants perceived that calcium helps to build bones and teeth, and increase height. Most participants perceived that there was no health risk from calcium consumption. Barriers to milk consumption included unpleasant taste, unavailability, and high prices. The barrier to small fish consumption was unavailability in school or at home.

Conclusions:
Students appeared to have positive attitude toward calcium but their knowledge about sources of calcium was limited. Information about alternative sources of calcium should be introduced. There is a risk that students may stop taking calcium after leaving the national school milk program or when their maximal height is reached. To prevent osteoporosis adequate lifetime calcium consumption should be promoted and strategies to increase accessibility to reasonable price calcium containing food should be identified.

Keywords: Calcium; Osteoporosis Prevention; Milk, Students.
In the third quarter of 2008, a major economic crisis hit many developed industrial countries; Taiwan suffered a rise in unemployment and a severe decline in gross domestic product. The macroeconomic effects on the risk of depression and suicide have been established, but the impacts of recession on measures of affective disorder comorbidity among different socioeconomic populations have not been fully elucidated.

Methods
The 2004-2012 admissions data for patients aged 20-55 years in 2004 was retrieved from the National Health Insurance Research Database. In total, a cohort consist of 6,006,634 men and 5,132,919 women was examined over this 9-year period, during which 225,031 episodes of hospitalization due to affective psychoses (APs) occurred. With stratification over three income levels, an interrupted time-series analysis examining the effects of the crisis on the monthly incidence rate of hospitalization for APs was conducted.

Results
The three income groups showed different patterns and changes in the rate of AP hospitalizations during the study period. The low income men and women showed increases (14.13% and 3.82%, respectively) beginning in April 2008 that were sustained for two years. The high income men and women exhibited a 2.62% and 6.42%, respectively, gradual rise in the rate of APs hospitalizations when the crisis began. The middle income group showed rises one and half of years before the crisis. Unlike women, the rate for middle income men declined significantly from the fourth quarter in 2008 to the first quarter in 2009.

Conclusions
This study provides evidence that the economic recession resulted in an increase rate of APs hospitalizations in Taiwan, especially in low income men. Moreover, a struggling economy may have short-term positive influences on the time trend for affective disorders among socioeconomically bourgeoisie men.

Keywords: Affective psychosis; morbidity; economic recession; time-series; ARIMA.
A Study on Quality Improvement of the Bowel Preparation for Colonoscopy Health Screening in Taiwan

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Background:
In Taiwan, colorectal cancer has been the third among the ten mortal cancers for over a decade, and the morbidity has increased year by year. A growing number of people have been willing to pay for a colonoscopy health screening. Many documents have shown that a poor bowel preparation would affect the rate of detecting adenomatous polyps and then postpone early detection and treatment.

Objectives:
Currently, the bowel preparation of colonoscopy is generally poor in the hospitals across Taiwan, with an effective intestinal clearance rate of less than 70%. The research subjects in this study are the subjects who received the advanced physical examination for colonoscopy health screening in a medical center in Taiwan. From April 2011 to July 2015, the data about 7,885 cases were collected for analysis.

Methods:
According to Aronchick’s intestinal classification, this study divided the degree of intestinal clearance into four levels, namely, “Excellent”, “Good”, “Fair” and “Poor”. The calculation of intestinal clearance rate was presented in the percentage of the cases of “Excellent” and “Good”. With the team resources management (TRM), this study adopted the sanitation education and operational procedure to improve the colonoscopy health screening in the collaboration among gastro-intestinal physicians and technicians, nurses, pharmacists, medical technicians and the administers at the counter, such as enhancing the picture-based intestinal clearance publicity, sending reminders in the form of text message, and confirming the examination on phone one to three days in advance.

Results:
According to the results of this study, the mean of the intestinal clearance rate was up from 70% to 84.98% after the TRM quality management was used to improve the operational procedure, and there was a significant statistical difference. Meanwhile, it was found that both age and the type of the bowel cleansing drugs had significant effects on the intestinal clearance rate, with the rate (80.20±18.74) for the female significantly higher than that (77.83±19.10) for the male, and the rate (72.92±20.58) for those aged over 65 significantly lower than that (77.83±18.80) for those aged from 45 to 60 and that (81.22±18.55) for those aged less than 45. The statistical significance P values were lower than 0.001.

Conclusion:
According to the results of this study, the TRM-based quality improvement program can effectively increase the intestinal clearance rate, which can be used as a reference for the health check-up centers and the gastro-intestinal screening centers in hospitals. Moreover, it has been found in this study, gender, age and the type of bowel cleansing drugs all have significant effects on the intestinal clearance rate, with the rate for the female significantly higher than that for the male, and that those at an older age would witness less effect of intestinal clearance. Therefore, it is suggested that a more effective quality improvement scheme be proposed for the elderly and middle-aged or male subjects.

Keywords: TRM; Bowel; Intestinal Clearance.
ASSOCIATION BETWEEN SECONDHAND SMOKE EXPOSURE AT HOME AND DISEASES RELATED TO SHS AMONG CHILDREN IN TAIWAN

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Background
Secondhand smoke (SHS) exposure among nonsmokers has declined substantially over time in public places as enactment of the Tobacco Hazards Prevention Act in Taiwan. However, the exposure of children to SHS at home remains an issue. Exposure to SHS could increase risks of respiratory tract infections, middle ear infections, sudden unexplained death in infancy, and asthma and there is no allowable limit to SHS.

Objectives
The purpose of this study was to demonstrate the association between SHS at home and the excess risks and medical utilization due to related diseases among the exposed children in Taiwan.

Methods
Data collected from the Taiwan Birth Cohort Study (TBCS) survey at 18 months of age of the children and their medical utilization by data linkage to the National Health Insurance Research (NHIR) database were used for analysis. The logistics regression model was used to examine the association between the exposure of children to SHS at home and its related medical utilization.

Results
Children with high level education or high income parents have a low proportion of outpatient service due to SHS. Moreover, after adjusting for related covariates, children with SHS exposure at home have a higher risk of outpatient visits due to SHS than that of those without SHS exposure (OR=1.19, 95% CI is 1.05 to 1.35). We also found that “father smoke” was a significant factor, which could result in a higher risk of outpatient visit due to SHS for the children (OR=1.15, 95% CI is 1.03 to 1.29).

Conclusions
Results of this study demonstrate that the children's exposure to SHS at home are harmful to their health and could cause a higher utilization of medical service. Therefore, effective strategies to advocate and enhance parental awareness on health harm of SHS to children are important.

Keywords: TBCS; NHIR; Secondhand smoke.
Background:
There are more than 300 million Indigenous people across 70 countries worldwide. Despite significant differences in the circumstances of Indigenous people globally, many themes and issues including persistent inequity in health are shared. The Indigenous experience of colonisation, marginalisation, family dislocation, racism, disconnection from land, loss of traditional diet and lifestyle, and the shift to Western habits and practices is central to patterns of poor health. One commonality among Indigenous populations is the disproportionate burden of non-traditional tobacco related morbidity and mortality when compared to their non-Indigenous counterparts. Furthermore, in many countries including Australia, Canada, New Zealand and the United States of America (USA), the rate of tobacco use among the respective Indigenous peoples are significantly higher than their non-Indigenous counterparts. This research outlines the findings from a realist review to help understand Indigenous tobacco control.

Methods:
This realist review synthesis is comprised of the following components: i) Theory development; ii) Literature Review; iii) Appraisal of evidence; iv) Refine and Test theory. Realist reviews start with one or more preliminary theories regarding the mechanisms that drive program outcomes. Mechanisms are portrayed as the underlying processes that link program activities to specific program outcomes within a particular context, and drive program success. Evidence appraisal is focused on determining whether or not there is support for these initial theories and in what contexts. Based on the evidence, these preliminary theories are revised as required throughout the data extraction and synthesis process before being tested.

Independent reviewers assessed the Indigenous tobacco control data from a systematic review for patterns in context, mechanism and outcomes. There was a specific focus on evidence of Indigenous community investment-ownership-activation as an explanation for sustained and ongoing Indigenous tobacco control program use. In order to test these theories and more fully understand ‘What works, for whom, and in what circumstances?’, three Indigenous exemplar communities were identified to test the developed theories.

Results:
This research examined 73 commercial tobacco control interventions in Indigenous communities globally, as well as theory testing in three Indigenous exemplar communities. Interventions incorporated numerous tobacco control activities to prevent (n=30), reduce (n=23) and/or cease (n=42) tobacco use; limit physical and social exposure (n=9); and limit access and availability to tobacco (n=2). Interventions were located in Indigenous communities in the USA (n=25), Australia (n=23), Canada (n=14), New Zealand (n=8), Fiji (n=1), Taiwan (n=1) as well as Australia and New Zealand (n=1). A number of identified tobacco control mechanisms—the underlying processes that link program activities to specific program outcomes within the Indigenous context—assisted to lead to program success. This included examining and unpacking the evidence of Indigenous community investment-ownership-activation in Indigenous tobacco control.

Conclusion: There is great value in considering the individual, local and Indigenous context of tobacco use. This research provides insight into the nuanced nature of Indigenous tobacco control and what makes Indigenous tobacco programs and policies successful. This research provides
evidence to help reduce tobacco use and prevent uptake, consequently assisting to minimize tobacco related morbidity and mortality.

**Keywords:** Indigenous; Aboriginal; Tobacco; Smoking; Realist Review.
Food Sanitation Survey of Market Fairs, Public Health Area 7, 8 (Kalasin, KhonKaen, Bung Karn, Roi-et, Loei, Nong Khai, Nong Bualamphu and Udonthani)

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According to Thailand Healthy Market Rule, 2007 which under the Public Health Regulation 1992, market fair (weekend market) can operate in the designed areas without buildings or other facilities, and the market's selling scheduling should be a least once a week. The products sold at the market are vary, starting from fresh food, ready-made food and other household merchandises. A large numbers of these markets have been rapidly rising. The latest survey about 518 markets has been conducted within the responsible area of Regional Health Promotion Center 7 KhonKaen, Public Health Area 7,8 which include the following provinces: Kalasin, Khon Kaen, Bung Karn, Roi-et, Loei, Nong Khai, Nong Bualamphu and Udonthani. The evaluation form (TL 2) which conclude 20 questions was used as an instrument for data collection during May-June 2014. The results from the survey indicated that 8.04% of the markets have been granted by the government authority. 22.78% of vendors and assistants have attended food safety trainings. 39.96% of the markets provided adequate hygienic toilets and hand-wash sinks. 40.93% of the markets have vendors registration system which classify the vendors according to their products. 44.21% of the markets prepared the cleaning areas for vendors who sell fresh food, fresh meat and cooked food. Finally, 44.56% of vendors and assistant dress proper clothes while operating. 51.93% removal of wastewater from a washing hygienic and does not cause nuisance to public side. The market fair management should be survey the market environment and food quality.

Keywords: Fresh food; Fresh meat; Cooked food.
Factors Associated with Newborn Screening Compliance among Mothers Who Have Given Birth in Lying-In Clinics in Quezon City, Philippines

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Background
Newborn screening detects some genetic and metabolic conditions that may be present in a newborn even before clinical symptoms are apparent. It is necessary to detect these conditions early to prevent catastrophic health outcomes such as mental retardation or even death. In the Philippines, newborn screening was introduced into the public health delivery system with the enactment of Republic Act 9288 or the Newborn Screening Act of 2004. However, even with this law, there still seems to be a trend of noncompliance among mothers.

Objectives
This study sought to determine the factors associated with newborn screening (NBS) compliance among mothers who gave birth in the seven lying-in clinics in Quezon City, Philippines between the years 2010 - 2015.

Methods
An analytic cross sectional study design was utilized. Records of 710 mothers who gave birth in the seven lying-in clinics in Quezon City Philippines from 2010 to 2015 were randomly selected. Multiple logistic regression was used to determine if the mothers’ age, civil status, PhilHealth membership, gravidity and parity were associated with their compliance to the newborn screening.

Results
An estimated prevalence of newborn screening compliance of 38% among mothers who gave birth in lying-in clinics in Quezon City was found. Multiple logistic regression results showed that the Philhealth membership, civil status, and parity were associated with the compliance of mothers on newborn screening. Mothers who were PhilHealth members or dependents were more likely to comply with newborn screening (OR=4.1; 95%CI: 2.9 - 6.0). Moreover, the odds of newborn compliance among married mothers were higher than unmarried mothers (OR=1.6; 95%CI: 1.1 - 2.3). Finally, primiparous mothers were more likely to have their child screened than mothers who had given birth more than once (OR=1.5; 95%CI: 1.0 - 2.1).

Conclusion
The higher odds of compliance to newborn screening among PhilHealth members or dependents was expected since PhilHealth members can avail of newborn screening in lying-in clinics for free. As regards parity, the researchers found that 95% of primiparous mothers included in the study were primigravid. From literature, primigravid mothers are more likely to go to prenatal checkups religiously. Since newborn screening information is always given during prenatal checkups at the health centers, mothers are more aware of the benefits of complying with newborn screening.

Keywords: Compliance; Newborn screening; Health insurance membership.
EDUCATIONAL DIFFERENCES IN AWARENESS AND USE OF THE OUTPATIENT SMOKING CESSION SERVICES PROGRAM IN TAIWAN

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Background:
To reduce educational inequalities in smoking, it is important that smoking cessation services can reach less-educated smokers. Studies on inequalities in awareness or use of smoking cessation services from Asian are lacking. This study assesses educational differences in awareness and use of a nationwide outpatient smoking cessation program in Taiwan.

Methods:
A total of 6,461 current smokers aged 25–64 was drawn from cross-sectional nationwide data of the 2012–2014 Adult Smoking Behaviour Survey. Multivariate logistic regression models were used to estimate the association between education and program awareness among current smokers and the association between education and program utilization among current smokers who were aware of the program and attempted to quit in the past 12 months.

Results:
Smokers with middle school or lower education and smokers with high school education were 45% and 19% less likely to be aware of the program compared to those with at least a college degree, respectively. There were no educational differences in program utilization among smokers who were aware of the program and attempted to quit.

Conclusions:
Given the educational inequalities in awareness of the outpatient program, tobacco-control policies should develop strategies to reach less educated smokers and overcome such inequalities.

Keywords: Educational differences; Smoking cessation services; Taiwan
Issues Associated with Communicating Information on Maternal and Child Health and Child-Rearing in A Brazilian Community in Japan

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Background: In recent years, long-term stay and settlement by foreign residents in Japan have become increasingly common. Local governments with high percentages of non-Japanese residents are required to address issues in the public health field. For public health nurses working, dealing with these foreign residents who speak in different languages and who have different cultures is a challenge that cannot be ignored. Of particular note, it has become a key issue to effectively communicate necessary information to those residents raising children in an unfamiliar setting.

Objective: We aimed to identify the means by which foreign mothers obtain information about maternal and child health and child-rearing, and study ways to communicate such information effectively in City A, where the percentage of Brazilian residents is particularly high in Aichi Prefecture Japan.

Method: In City A, we requested foreign mothers at two day-care centers that accept a large number of foreign children and those who had their infants undergo medical examinations at a healthcare center to cooperate in a survey in which they completed a self-administered questionnaire. The questions in the questionnaire were about the actual conditions under which they raise their children in Japan, the means by which they obtain information on child-rearing and their basic characteristics. After approval by the ethics committee, the survey was carried out with proper attention to human rights and privacy protection.

Results: We obtained responses from 88 mothers. More than 70% of the respondents were Brazilian nationals. More than 80% of them had stayed in Japan for six years or longer. Despite their long stay, the survey revealed that many of them were only able to understand simple Japanese phrases and they were worried about their children’s future. Most of the respondents said that they had people who help them with child-rearing. The social services that they had used were mostly day-care centers and healthcare institutions. On the other hand, they had scarcely availed of the services of the child-rearing support centers, which have counseling function. Regarding the source of their child-rearing information, “from husband” topped the list followed by “via the Internet” and “from doctors.” Information that they wanted was wide-ranging from children’s education to growth, illness, diet or vaccination. Those who received advice on child-raising or child health in Japan accounted for 65% and 75% of them said that they were “not satisfied.” Half of the respondents said that they wanted to participate in meetings in a casual setting, where mothers can get together.

Conclusions: Although foreign mothers need information on child-rearing or child health as Japanese mothers do, due in part to their busy schedule and language barriers, it was believed that they cannot easily access social services that support child-rearing and have few opportunities to obtain a broad range of information on child-raising. It is thus necessary to provide an opportunity, where even busy foreign mothers can get together casually, promote exchange among them and communicate information about maternal and child health and child-rearing with cultural and system differences in mind.

Keywords: Brazilian; Child Health; Communication.
Perceived Mobility as Predictor of Sedentary and Walking time in a Healthy Elderly Population in Taiwan

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Background:
Studies have showed that regular physical activity, such as aerobic activity, short-term exercise programs or even walking, can significantly reduce the risk of chronic disease, functional limitations and disability. Physically inactive or sedentary lifestyle would make elderly be less satisfied with quality of life. Walking is the most popular physical activity and aerobic exercise that is common to everyone, except for those who have seriously disabled or frail conditions. However, studies of sedentary and walking in elderly are scarce and primarily limited to elderly with disability or cognitive deficit rather than healthy older adults. Therefore, the purpose of this research is to examine the perceived mobility in predicting sedentary as well as walking time of healthy older adult, respectively.

Methods:
Data from 2009 National Health Interview Survey (NHIS) in Taiwan, a cross-sectional population survey, was examined. After excluding those who living in long-term care institutions and those with disability (ADL ≥1), a total of 2,338 older adults (aged 65-97 years, 55% female) was recruited as the study sample. Perceived mobility was measured by asking respondents 8 items of how difficulty to perform and was divided into 4 groups (score 0, 1-2, 3-5, ≥6) in the analysis. Sedentary and walking time were measured by asking respondents how many days and how much time per day in sitting or walking in the past two weeks, and was calculated into minutes per day. Socio-demographic and health-related variables, including gender, age, levels of education, marital status, depression, and number of disease were controlled as covariance. Descriptive statistics and multiple regression models of sedentary and walking time were separately estimated with perceived mobility.

Results:
Firstly, for sedentary time, there are differences among groups by age, level of education and number of diseases. Results showed perceived mobility was a significant predictor to sedentary time even after controlling all covariance; the elderly reported the worse perceived mobility, the longer they sat. Marital status (married and not separated), number of disease (have had 1 to 2), and education backgrounds (graduated from junior high schools or above) are also the determinants of sedentary time. Secondly, however, walking time differed according to different levels of education only. In the regression model, walking time could be predicted by perceived mobility only when the scores were 3 to 5 and ≥6 items; however, all covariance was no significant in the model.

Conclusion:
This study found that perceived mobility surely is an important predictor of sedentary and walking time in healthy elderly population. Interestingly, elderly who had higher academic degrees had longer sedentary time. Furthermore, none of personal socio-demographic and health-related variables could predict walking time of elderly in Taiwan. Thus, further research is needed to find other critical determinants of walking time, like environmental or community factors, which may encourage older people to engage in physical activities.

Keywords: NHIS 2009; Physical activity; Sedentary lifestyle.
Social environments and social participation of older adults in Taiwan

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Introduction:
Social participation is an important factor of active ageing and is significantly associated with elder’s health. However, such participation will be affected by elder’s living environments or social resources, which is a contributing factor for health behaviors, lifestyle and then their health. Although many studies have focused on the association between social participation and elderly health, few have explored the relationships between social environments and social participation among older adults. Therefore, the aim of this study is to examine the relationship between social environments and social participation of older adults in Taiwan.

Method:
This study used two levels of data: individual and ecological data. Individual data was from 2009 National Health Interview Survey (NHIS) in Taiwan. After excluding institutional adults and those without social participation information, which was measured by two questions, “are you a volunteer now?” and “do you join the clubs or activities in community or in neighborhood?”, a total of 2842 older adults aged ≥65 year and above was recruited as the study sample. Other control variables of individual level included gender, age, educational level, marriage status, religion, health behaviors (drinking, smoking, and exercise), employment, ADL, and number of disease.

Social environments were an ecological level of data and divided into two types: “hardware environment” and “software environment”, which was collected from the open government data in Taiwan, such as National Statistics, Social and Family Affairs Administration, Ministry of Health and Welfare, etc. “The built area of park, green space, square” and “No. of community center” were classified as hardware environment. And the software environment included “No. of community development association” and “No. of community care group”. Social environments were then calculated as per community average. Furthermore, this study used two other indicators to present urbanization level and wealth of the city/county, including “population density” and “average income per person” which were also collected from National Statistics. In the analysis, social environments and urbanization level were divided into quartile. Therefore, descriptive statistics, Chi-Square, and multi-level analysis of Hierarchical Linear Modeling (HLM) was used in this study.

Results:
Nearly 30% of males and one quarter of females had one kind of social participation (29.63% vs 25.11%) and the percentage of participation decreased with the growth of the age. With the increases of population density and average income per person, percent of social participation significantly decreased. Comparing effects of hardware and software environments, social participation increased only with more software environment.

HLM models indicated that more software environment is positive associated with social participation. After controlling covariates of individual data, software environment is still significantly associated with more social participation. Noticeably, hardware environment showed no difference in social participation.

Discussion:
On the whole, soft environment is significantly associated with social participation of older adults. Thus, this study suggest future policy for social participation promotion should consider more different software environment such as organizations, clubs, groups, programs, strategies and so on.

Keywords: social environments; social participation; elderly.
Understanding the Social and Economic Factors that Influence Development of Childhood Obesity among Pre-Schoolers in Bangkok Metropolitan Area

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BACKGROUND AND OBJECTIVES:
In Thailand, obesity in children aged 0-6 increased by 40% between 2004 and 2009, and urban residence was a significant risk factor. There are few studies exploring factors influencing childhood obesity in Thailand. There is a need for further investigations into the causes of the problem, especially those related to socio-cultural factors. This study focused on understanding the mechanism of influential factors to childhood obesity and incorporated multiple perspectives on the problem, including the children’s, and explored people’s own constructions of their food practices.

METHODOLOGY AND METHODS:
Ecological System Theory was employed as a framework and employed a qualitative inductive approach to data collection, designed to capture the temporal and spatial specificity of consumption. Pre-schoolers and caregivers, and their interactions around food, were a focus. As part of a nested case study design, three kindergartens used by families of different socioeconomic statuses and the homes of 18 pre-schoolers attending these kindergartens were selected. Main method of this study were participant observation and formal and informal interviews.

RESULTS:
Three domains of food consumption are identified: main meals, milk and snacks. Under the main meal domain, children’s agency is important in the process of main meal practices. Children at pre-school age can negotiate to eat their preferred dish in a preferred environment. Given that children have their agency, and that feeding is highly attached to child rearing it is difficult to just tell parents to feed good food without considering the other social conditions.

Certain milk drinking practices, such as drinking too much milk or drinking sweetened milk, found in the study prompted the need to explore and understand whether and how factors at the macro-system level, e.g. government campaigns and advertisements, influence individuals’ practices. The perception of adults, especially parents, that ‘milk is good for children’ dominated the decisions around the provision of milk to children, while the awareness of adverse effects of overconsumption of plain milk and the rationale of fortified milk consumption were overlooked. In the snacks consumption domain, children put their best efforts in negotiating for snacks rather than avoiding the practices of milk and meals consumption. Children’s desire to consume their preferred snack were shaped and influenced by peers and advertisements from snacks industry. For caregivers, the provision of snacks to their children was also influenced by the values they had, e.g. giving snacks to a child was perceived as a treat.

CONCLUSIONS:
The consumption practices under the three domains were affected by values that caregivers had towards child rearing and feeding, and children’s characteristics and agency, expressed through negotiating food choices with adults. While the lifestyles of employed caregivers and the obesogenic environment of the metropolitan area contributed to adults’ decisions concerning children’s food, socioeconomic status was a minor influence. More important were the values that adults held which were shaped by campaigns from the government and the private sector. This study shows how this combination of social and economic factors led to the consumption of food high in sugar and calories.

Keywords: Childhood obesity; Ecological System Theory; Social and Economic factors; Bangkok Metropolitan Area.
An exploration on knowledge and behavior about rabies prevention and control: A community survey in mountainous district of Vietnam

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Background:
Even though rabies is preventable, it kills 55,000 people around the world each year, especially in developing countries of Asia and Africa. In 2015, rabies killed 78 Vietnamese; 11 cases increased as compared to 2014. Understanding people knowledge and behavior (KB) about rabies to have proper and quick intervention measures is very important.

Aims:
1/ explore KB about rabies of people who have been bitten by dog
2/ obtain factors for current KB of people about rabies

Methods:
This cross-sectional included samples of people who have been bitten by dog living in mountainous district of Nam Dong aged from 18 to 70 in 2015 and early 2016.

Results:
Only 16.5% of respondents knew one of the main transmission routes that is direct contact with saliva of rabid animal. There is only 5.8% of respondents knew at least two in several symptoms of human rabies. Over 86% of respondents said that there is still specific treatment for rabies infection. Around 23.1% applied proper first aid procedures after a bite, 22.3% used chill’s leaves, 15.7% utilized superstitious measures and 19.8% did nothing. About 37.9% respondents received PEP. Intellectual capacity and behavior about rabies related to different ethnic groups, which means Kinh or Viet people has better knowledge toward rabies than any other group of ethnic minority such as Co Tu or Ta Oi.

Conclusion:
Increasing comprehension regarding wound washing, seeking post-exposure prophylaxis as well as the need to vaccinate domestic dogs are likely to result in more effective prevention of rabies. However, greater engagement of local authority along with the medical sector in effectively ensures ways to prevent and control rabies.

Keywords: Rabies, Comprehensive care, Vietnam.
Perceived Factors Affecting Newborn Screening Non-compliance Among Mothers Who Have Given Birth in Lying-in Clinics in an Urban City, Philippines

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BACKGROUND
Newborn screening (NBS) detects a number of genetic and metabolic conditions that may be present in a newborn even before clinical symptoms are apparent. It is necessary to detect these conditions early to prevent catastrophic health outcomes such as mental retardation or even death. Newborn screening was introduced into the Philippine public health delivery system with the enactment of Republic Act 9288 or the Newborn Screening Act of 2004. However, even with this law, there still seems to be a trend of noncompliance among mothers.

OBJECTIVE
This study sought to determine the perceptions of mothers who gave birth in public lying-in clinics and those of midwives in Quezon City lying-in clinics regarding the factors affecting the non-compliance of mothers to newborn screening.

METHODS
A qualitative study using case study approach was done. Seven (7) key informant interviews with midwives and two (2) focus group discussions with mothers who gave birth in lying-in clinics were conducted. The data gathered then were analysed through thematic analysis to determine factors affecting non-compliance as perceived by the aforementioned groups.

RESULTS
From the two focus group discussions, three themes emerged as factors explicitly or implicitly affecting compliance to newborn screening: Attitude of Mothers Towards NBS, Costs of NBS, and Quality of Service in the Lying-in Clinics. The factors identified from the seven key informant interviews were the following: Financial Constraints, Mother's Attitudes, and Administrative Concerns.

CONCLUSION
There are indeed factors affecting non-compliance to NBS that are not under the scope of socio-demographic factors and cannot be determined from a mere review of records. Between the FGDs and KIs, there was agreement regarding the fear of pain for the infant, financial constraints, negative health seeking behaviors, a low awareness among mothers regarding NBS, and failure to apply for PhilHealth (Philippine Health Insurance Corporation) as factors affecting non-compliance. Knowing of these factors, different resolutions may be undertaken by relevant institutions to further strengthen and improve the NBS program.

Keywords: New-born screening; Non-compliance; Lying-in clinics.
The effect of resources management on 1st and 2nd year medical students' academic achievements and their level of stress, anxiety at Hue university of medicine and pharmacy

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Background:
Learning resources management skill is becoming increasingly important in improving academic achievement as well as reducing the mental burden for students during the process of studying. At Hue medical university, the strict training methods and limited facilities have caused many outstanding issues, including the passivity of students in learning and their significant decrease in mental health. That is the reason why there needs to be a comprehensive survey to provide clear evidence to the school authorities and the students for a better understanding about their learning strategies and then take appropriate actions on time.

Aims:
This study aims to find out the effect of resources management on 1st and 2nd year medical students’ academic achievements and their level of stress, anxiety.

Methods:
Cross-sectional study design is used in this research. A total of 525 students at Hue University of Medicine and Pharmacy, is conducted by stratified sampling methods. Data is collected by interviewing with structured questionnaire. Motivational and Self-Regulated Learning” (MSLQ) and other scales such as the demographic data, Depression – Anxiety – Stress Scale (DASS21), academic achievements were used as tools to assess the effect of resource management on students’ academic achievements and their level of stress, anxiety.

Result:
Time and learning environment has a positive correlation to the academic achievement of students (p <0.05). All factors of learning resources management are correlated to the level of depression, apart from seeking help (p = 0831). Effort regulation has a positive correlation (p = 0.016) to the anxiety level of students and peer learning has a negative correlation (p = 0.006) to the anxiety level of students. No factors of resource management is found correlated to the level of anxiety.

Conclusion:
Academic achievement, optimal utilization of time and study environment and self regulation are the factors that are believed to have positive influences on each other. The factors of time, study environment and peer learning are believed to have negative correlation to the level of depression. In contrast, self regulation has a positive correlation to the depression level.

Keywords: Resources management, Anxiety, Depression, Stress, Learning strategy.
Is mobile-health feasible for home-based intervention for children with Autism spectrum disorder (ASD) in low-resource settings?

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Background:
Advances in mobile and wireless technologies have given rise to a new form of healthcare delivery: mobile health (mHealth) to address the disparity in access to care. Mhealth has been recognized as potential solution to support intervention for children with ASD. However, empirical data of the feasibility and lessons learned of the solution in low-resource setting is still limited.

A365, a Vietnamese web-based application, has been developed from 2014 – 2016 to pilot the model of using m-health to support early identification and home-based intervention for children with ASD. One of A365’s main functions is to provide strategies, a series of instructional videos and texts to help parents to support the development of their children’s skills through everyday activities. A thorough evaluation plan is integrated in the design of the program to provide evidence for feasibility, effectiveness and replicability in other contexts.

Objectives:
- To describe the process of developing the a365 intervention model,
- To discuss its initial achievements and lessons learned.

Methods:
Data for this presentation came from project reports, back-end data, and reflections within research team.

Key findings:
The web-based platform has been developed with the strong engagement of users through formative research and multiple interface and usability testings.

So far, 30 instructional videos have been developed in 6 themes (play and learning, self-care, communication, social participation, emotional regulation and community access and participation). Parents also can keep track of their children’s progress using short printable questionnaires attached in each activity. A comprehensive back-end system was developed to collect data of usages.

Since its launching in late 2015, 57 families with autistic children from 14 provinces/cities in Vietnam signed up for using intervention modules. Play and learning and communication are two intervention themes having the highest number of viewers. Specifically, teaching children to imitate and participate and teaching them how to play with a range of toys received the highest number of views. In addition, 24 families registered to participate in research component of testing the effectiveness of A365 for home-based intervention, in which clinicians will assess the children before and after their parents using resources in A365 to teach them skills.

This pilot model has emphasized the importance of multi-disciplinary collaboration among our team (developers), parents (users), therapists, and technology experts. Among the challenges were limited technological capacity and unstable wireless coverage in rural areas. Furthermore, many parents did not consider themselves capable of providing intervention. We found that the outcomes were more promising in provinces where we were able to provide on-site training for parents to use the application.

Conclusions:
The A365 application was developed to provide more opportunities for intervention for autistic children, with parents being actively involved and utilizing the resources at home. The initial outcomes have proven promising with many lessons learned during the process. The next phase of the project
will focus on monitoring and evaluation to provide more evidence of effectiveness and expansion of the program in other contexts.

**Keywords:** Home intervention; Autism; Mental health.
Occupational exposures to patients’ body fluids among health care workers in a university hospital in Ethiopia

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Background
Globally, exposures to patients’ body fluids (BFs) are common occupational hazards among health care workers (HCWs); and over 90% of such occupational exposures occur in developing countries such as Ethiopia. However, there is paucity of data to quantify the magnitude and circumstances around the occurrence of these occupational exposures among HCWs in Ethiopia.

Purpose
The study aimed at describing the patterns of exposure to patients’ BFs among HCWs at a tertiary hospital in Ethiopia.

Method
A contextual descriptive cross-sectional design was used for this study and self-administered questionnaires were used to collect data.

Results
The one year and professional life prevalence of occupational exposures to patients’ BFs among HCWs was 33.5% and 66.5% respectively. Circumstances that led to participants’ exposures to patients’ BFs include needle stick injuries to fingers and splashes to the eyes (82.4%); conducting procedures including withdrawal of blood (10.8%) and inserting intravenous infusions (8.1%) as well as recapping of used needles (12.2%).

Conclusions
Findings of this study generally indicated that occupational exposures to patients’ BFs of different types and circumstances were common among all categories of HCWs in the study site. This high finding of BFs exposures should not be over looked. HCWs should be encouraged to adhere to universal precautionary measures to prevent the exposures to patients’ BFs. Furthermore, availability of and compliance with post-exposure prophylaxis should be strengthened.

Keywords: Occupational health; Health care worker; Body fluids; Patients.
MOBILE PHONE USE AND THE RELATIONSHIP WITH SLEEP DISTURBANCES, DISTRESS AND LEARNING OUTCOMES AMONG STUDENTS AT HUE UNIVERSITY OF MEDICINE AND PHARMACY IN 2015

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Background and Objectives:
Mobile phone addiction has become a common problem, especially among the youth, and heavily affected human well-being. This study is to identify the current situation of using mobile phone among students of Hue University of Medicine and Pharmacy and to examine the relationship between mobile phone use and sleep quality, distress and study results of students at Hue University of Medicine and Pharmacy.

Methods:
A cross-sectional study with a randomly selected sample of 698 students of all majors (doctor and bachelor) in the 3rd year and the 4th year at Hue University of Medicine and Pharmacy. SAS-SV scale was used to evaluate phone addiction status, K10 scale was used for distress identification and PSQI scale was used for examining the sleep quality. We also collect learning outcomes of student in 2014-2015.

Results:
Average daily time spend for mobile phone is 3.58 hours. 61.3% student use mobile phone for checking social network, 46.4 for gaming. The proportion of student who classified as phone addiction is 43.7%. Phone addiction rate increases gradually according to the years of using. There is an association between mobile phone addiction and sleep quality, distress and study results of students.

Conclusion:
This study shows the alarming situation of mobile phone using among medical students, and helps to identify the impacts on sleep quality, distress and study results of students. The results call for solutions to reduce the rate of phone addiction and related harms.

Keywords: phone addiction; sleep disorder; Pittsburgh; SAS-SV; K10; PSQI; Psychological disorder.
"Lansaka Model": The Model of Larval Indices Surveillance System for Sustainable Dengue Problem Solution from Households to District Level, Southern Region, Thailand

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Background:
Dengue has been significant health problem of several countries in tropical and sub-tropical area. In Thailand, dengue has been spreading for more than 50 years, with a pattern of outbreaks one year followed by two years of normalcy. Nakhorn Si Thammarat province has the highest rate of infection. Prevention in the community against dengue transmission is a significant strategy to reduce dengue outbreaks. Then, larval indices surveillance system has the most of prevention method. Objective: to develop the larval indices surveillance system based on appropriated with community context.

Method:
Community participation action research (CPAR) study was conducting the new approach for the high district, Lansaka district, Nakhon Si Thammarat province, Thailand. The study was conducted during the years 2013 to 2015, integrated with concept: 1) community capacity building, 2) epidemiology, 3) research design for Health Development, and 4) computer program online. There were five steps such as: 1) community preparation, 2) situation assessment, 3) develop the surveillance system, 4) Implement, and 4) evaluation.

Results:
The model was covering district areas in 44 villages of 5 sub-districts, such as the Lansaka district-chief officers, the Lansaka hospital, eight primary care units (PCUs), the Lansaka officials of public health, community leaders, and five local administrative organizations. The system consisted of: First, village health volunteers (VHVs) were divided into 3-4 groups per a village for larval indices survey every 25th day. Second, each a VHV surveyed the larval indices in 10-15 households in “violet book”, and sent larval indices data to the head of the group. Third, the head of the group collected data from VHVs in “blue book”. Fourth, the head VHV in each village collected the total data from heads of VHV groups in “yellow book”. Fifth, the PCU collected and recorded data from all villages into the online program http://Lim.wu.ac.th, analyzed the data and reported the results on the 30th day of each month. Sixth, larval indices levels of Breatheau Index, House Index, and Container Index were reported in the VHV’s meeting on the 9th day of each month. The health workers then proposed level of larval indices as information for all VHVs in order to prevent dengue in the high risk villages, and Seventh, communicated information to all stakeholders in the community such as Local administrative organization, primary school, and households by VHVs. Morbidity rate decreased from 164 cases/100,000 population in 2014, to 64.5 cases/100,000 population during January-September 2015. Moreover, the dengue’s knowledge and larval indices’ knowledge of VHVs were increasing significant statistic (P<.01).

Conclusions:
The new system was decreasing larval indices level, and morbidity rate, but the levels were higher than standard. However, the both PCUs need continuous monitoring the system both of households and district.

Keywords: Dengue; Sustainable; Larval indices; Surveillance; District.
Risk Analysis: Determinant of Health Prevention, Promotion and Protection Programs in The Workplace (A Case Study in Fabrication Workshop PT.X, Indonesia)

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Background:
The existence of potential hazards in the workplace should have an intensive attention from the company. The company have to provide a safety and health protection to all workers in the workplace. Humans are the main asset of the company who will bring down the productivity of the company if the degree of their health were deteriorated. Therefore, providing protection for workers is an obligation that must be met by the company, it refers to the Indonesia’s regulation “Undang-Undang Nomor 1 Th. 1970” that regulate about work safety. Fabrication workshop in PT. X is a workplace where there are a high risk potential hazards that could cause a serious problem of safety and health for workers. To decide which one is the best prevention and control programs for reducing the number of occupational diseases and accidents in the workplace, the company must properly conduct the way to identify hazards and assess risks in the workplace. One of the method that can be used to identify hazards, assess and control risks is HIRARC. This method will give a representation about the real condition of workplace. The potential hazards that can be identified by the researcher using this method are physical hazards, chemical hazards, biological hazards, electrical hazards etc, so after that there will be appear which one is the high risk and need to be controlled. Purpose: The purpose of this research is to control risks in the workplace that was identified and assessed as a high risk, so after the high risk have been controlled, there is no more occupational diseases and accidents.

Methods:
The method used in this research is by doing a direct observation in the workplace and supported by theories and literature studies.

Results:
The results obtained from this study is that there is a workflow in Fabrication Workshop PT. X begins with marking then cutting, drilling, grinding, welding, assembling sandblasting and painting. There are so many potential hazards such as; noise, vibration during grinding and operating forklift, fume, etc. The most significant hazard and high risk that was identified is the lack of lighting in the workplace that is equal to 105.6, the standard for fabrication is 200 lux. That is potentially cause an eye fatigue and give mistakes during the production process. The other one is the coating of metal fume combustion products during grinding and welding processes may cause pneumoconiosis to the worker.

Conclusion:
Some of the risks that have been successfully controlled is done by opening the wall in the workplace so that the natural light come inside the workplace so it can raise the intensity into 357 lux. Then, by installing the local exhaust fan to accelerate the air for carry out the fume, by wearing a dust mask for a worker so that they are protected from the exposure of fume.

Keywords: Risk analysis; Hirarc; Occupational health; Safety.
Persuasiveness of Indonesian New Balance Nutrition Message: University Student Perception

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Background:
As other countries, Indonesia face nutrition problem. The prevalence of overweight and obesity has increased in the last decade. On the other hand, underweight and malnutrition remain exist. To overcome nutrition problem, a Balanced Nutrition Message or Pesan Gizi Seimbang (PGS) in 2014 has been introduced by the Ministry of Health as the revised of 13 Balanced General Nutrition Guidance or Pesan Umum Gizi Seimbang (PUGS). How far these messages can be understood and accepted by the public has not been made. Therefore, the balanced nutrition message needs to be tested in the readability and the ability of persuasion that all people are more easily understand and follow the message.

Objective:
To test the readability and persuasion of balanced nutrition message among university students

Methods:
This study was an observational study with cross sectional design. Participants were 67 health sciences students and 367 other than health science students of Universitas Gadjah Mada Yogyakarta. Samples were selected by proportional random sampling. We used structured questionnaire for data collecting and data was analyzed descriptively.

Result:
The readability of balanced nutrition message was perceived more among health sciences students compared to other than health science students (58% vs 45%). There was no difference of the readability of balanced nutrition message across gender. Moreover, the persuasiveness of balanced nutrition message was also perceived more among health sciences students compared to other than health sciences students (64% vs 47%). Although statistically not significant, there was a different between male and female in perceiving the balance health nutrition.

Conclusion:
Since the readability and persuasiveness of balance nutrition message was not high, there is a need to simplify the message. Further research may investigate the relationship between the persuasiveness of balance nutrition and healthy life style application

Keywords: Persuasiveness, Nutrition message, University student
Physical Status of School Going Children Aged 5-15 Years in Myanmar: A Pilot Study

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Background: As WHO cited, early childhood development is considered to be the most important phase in life which determines the quality of health, well-being, learning and behavior across the life span. Myanmar adopted the concept of health promotion through schools in 1996, and the national five-year adolescent health and development strategic plan from 2009 to 2013 was developed. However, very few studies have been conducted on health status among school going children.

Purpose: The study was carried out to assess physical, mental, and oral health status of school going children in Yangon, Myanmar.

Methods: A pilot, cross-sectional, descriptive study was conducted in a Monastic Education School in Yangon, Myanmar, in March, 2016. The height and weight of children were measured according to standard anthropometrical methods; the BMI-for-age percentile was calculated to categorize the weight status.

Results: School children aged between 5 and 15 years (n=397, mean age 9±2.2 years, boys n=181, girls n=216) were voluntary participated in this study. The average height in centimeters and weight in kilograms for boys ages 5 through 15 is N/A; 111.7 (17.5); 117.3 (19.1); 123.1 (21.4); 129.8 (24.3); 130.9 (25.2); 136.1 (29.0); 139.2 (30.4); 144.2 (31.4); 148.4 (35.0); N/A, and 108.7 (16.9); 113.0 (17.3); 116.0 (18.6); 121.7 (20.7); 127.1(23.5); 133.7 (26.6); 135.8 (27.3); 145.7 (36.0); 145.4 (31.2); N/A; 152.8 (44.5) for girls. The mean BMI in boys was 14.25±1.9 kg/m² and 14.4±1.7 kg/m² for girls. 214 (54%) were found to be Normal, 179 (45.0%) Underweight and 4 (2%) Overweight or obese. More results will be presented during the conference.

Conclusion (Contribution to the field): This study can be used as baseline information to track changes over time, in physical development among school going children in Myanmar. Nevertheless, a study on the physical status of school going children of different schools and communities should be conducted in order to be a representative sample of the entire population of Myanmar.

Keywords: Myanmar; School going Children; BMI.
ROLE OF LABORATORY PERFORMANCE IN PRIMARY HEALTHCARE: A CASE STUDY OF OSMANABAD DISTRICT, MAHARASHTRA, INDIA

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Laboratory diagnosis has been considered a vital component in the modern healthcare systems, but an inadequate focus causes the lack of quantitative knowledge regarding the role played by the laboratory in hospital performance. This study proposes a quantitative model to determine the impact of the laboratory on hospital performance using the case of Primary Healthcare Centers (PHCs) in Osmanabad district, Maharashtra. The study used the PHC performance index (PPI) as the dependent variable and three laboratory performance indicators (total number of tests performed by the PHC (TTP), PHC malaria test reporting time (MTR) and PHC malaria test workload (MTW)). The linear regression is performed to determine the effect each of the laboratory performance indicators on the dependent variable. The study found that TTP had a significant effect on the PPI (p<0.05) indicating that the PHC performance is dependent on the laboratory performance.

Keywords: Primary healthcare laboratory; Laboratory performance; Indian laboratory performance.
DETERMINANT FACTORS AND THE CAUSED EFFECT OF HEAD LICE INFECTION AMONG PRIMARY SCHOOL STUDENTS IN TAMALANREA DISTRICT

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Pediculosis capitis or head lice infection is an infectious skin disease caused by an obligate ectoparasites that is included in the family of Pediculidae. Head lice infection were concerned with the conduct of maintaining personal hygiene. Today, pediculosis disease were reported more frequently found, mainly in school-age children both in developed countries and in the developing countries. The prevalence of the disease varied between 16.59% -81.9%. This study was purposed to determine the risk factors of head lice (Pediculus humanis capitis) infection and the negative impact that may be caused to school age children. This research is an analytical descriptive study with cross sectional design. These samples included 112 student that selected by simple random sampling method at four elementary schools in Tamalanrea district. The results showed that there is a significant relationship between the incidence of pediculosis by gender and hair type of the sample. In addition, the test results showed that the pediculosis infection statistically significant related to the onset of itching in the head and sleepless nights on the sample. Thus, the results of this study are expected to become an evaluation material in order to break the chain of transmission of pediculosis infection and reduce the risk of negative impacts that can be generated.

Keywords: Pediculosis capitis; Indonesia; Chain of transmission.
IMPROVING ANTENATAL CARE FOR VULNERABLE WOMEN IN VIETNAM

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Background:
The Social Science Research Council (USA), in collaboration with the Vietnam Academy of Social Sciences (VASS), designed and implemented a multidisciplinary and longitudinal (two rounds) population health study (the Study) in three provinces in Vietnam. The goal of the study is to provide high quality, credible evidence to The Atlantic Philanthropies, the Ministry of Health, provincial, district and local health officials, potential donors, and other stakeholders in Vietnam’s health system, around two key sets of questions: i) How well is the provincial model developed and funded (or inspired) by Atlantic working? ii) To what extent has the model strengthened provincial health care and prevention work through improving access, increasing the range of services, improving staff capacity, quality of facilities, health seeking behaviors and quality of care? In total there were 3600 households chosen for interview.

Aims:
This paper examines change in knowledge and practice for safe motherhood indicators (prenatal, birth delivery and postnatal care) and the impact of donor supported maternal and child interventions in the three surveyed provinces in Vietnam.

Methods:
A total of about 1,800 cases of mothers aged 15-49 who gave birth from 2003-2014 were analyzed. Multivariate regressions were done to determine which independent variables are associated with maternal and newborn care practices.

Results:
Findings show that in general percentage of antenatal care behaviors of women in surveyed communes is increased after 5 years. Intervention impact are more clear for women with higher education. Mother’s education, occupation, living standard and year of birth have significant effect: more antenatal care for recent birth; higher education mother; saler and officers vs. farmers; Kinh women vs. ethnic minority; higher living standard.

Conclusion:
To improve antenatal care for Vietnamese mothers, especially for vulnerable ones, it is recommended that: provision of intervention medical projects for women in rural areas regarding safe motherhood should be continued; awareness of safe motherhood for women, especially for ethnic minority group, lower education and in poor households should be improved; living standard and education for women should be improved. Some specific measures are suggested: use local language for BCC; increase quality and regularity of antenatal services in CHC, especially in remote areas (information, standard tests, etc.); providing blood test during prenatal exams; exploring iron fortification of commonly consumed food and promoting eating food high in iron; increasing a role of village health worker in communication, encouraging women and their family members to ensure that pregnant women take iron supplements.

Keywords: Antenatal care; Vietnamese; Motherhood.
Knowledge, Attitude and Practice for Breast Cancer Prevention in Khanh Hoa Province, Vietnam

Nguyen Tu Nam Khanh Hoa

Previous research shows that early detection of breast cancer is very important for effective treatment and is the key determinant of breast cancer control. This study examines factors related to knowledge, attitude and practice for breast cancer prevention among women aged 20-60 in Khanh Hoa province, a South Central Coast province of Vietnam. A cross-sectional survey of 1,200 women was conducted to examine these factors in September 2015, relationships between sociodemographic and socioeconomic factors and knowledge, attitude and practice as well as the relationship between knowledge, attitude and practice. Multivariate regression analysis then is used to examine the most significant factors affecting breast cancer prevention practices. The major result of this study shows that there is a statistically significant association between attitude and knowledge, between attitude and practice of prevention, between knowledge and age, and occupation, and between attitude and breast self-examination. The findings should help to develop prevention messages and targeting for prevention in Khanh Hoa Province.

Keywords: breast cancer; breast self-examination; clinical breast examination; knowledge; attitude; practice; khanh hoa.
Impact evaluation of a school-based oral health promotion programme – an evidence in public health practice

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Background:
In recent years, as part of the wider move to evidence based practice, a debate has arisen within the profession over the effectiveness of oral health promotion. Evaluation should therefore be a core element in the planning process for any intervention.

Aim:
To improve the oral health knowledge, attitude, behaviour and oral health status of 12-13 year old school children, in Udaipur, India, through an oral health promotion programme for 2 years and to do the impact evaluation of the programme.

Materials and Methods:
Study design: A randomized controlled trial. Study population: 12-13 years old school children from two schools (n= 266 from intervention school and n= 240 from control school) in Udaipur, India. Study Duration: 2 years. Study instrument: A self administered structured questionnaire to assess the oral health knowledge, attitude and behavior and modified WHO oral health assessment from (1997) to assess the periodontal and dental caries status. Statistics: Data was analyzed using SPSS version 11.5. Means and standard deviations were calculated. Student t test was used as test of significance.

Results:
At the end of 2 years, the study and control groups showed an increase in knowledge, attitude and behavior scores with no significant difference for behaviour scores; and an increase in the mean number of sextants with bleeding and calculus and mean DMFS was observed in both study and control groups with no statistically significant difference among the groups.

Conclusion:
Improved oral health knowledge and attitude but no change in the oral health behavior and oral health status of the children observed could not give a convincing evidence of effectiveness of this oral health promotion programme.

Keywords: Oral health; Practise; Health Promotion.
SOIL TRANSMITTED HELMINTHS (STH) INFECTION AMONG PRIMARY SCHOOL STUDENTS, AND THE EFFECTIVENESS OF STH ERADICATION POLICY OF PRIMARY HEALTH CARE IN BALIKPAPAN

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Soil Transmitted Helminths (STH) is a neglected disease which may affect the growth and development of children in school-age. An observational cross-sectional study to reveal the actual STH infection among school-age children in Balikpapan was conducted from January-March 2016 involving 101 students from 10 schools, 27 Primary Health Care Center (PHC) and 15 Government Institutions. Students 6-13 years old were involved in stool examination using Kato Katz method. Questionnaire also spread to 27 PHC and 15 Government Institutions. Univariate, bivariate analysis were performed using Chi Square test, and Logistic Regression test. Rate of STH infection is 62.4\%. Common risk factors were identified including not using flipflop/shoe (p=0.048 OR 2.231) not taking STH prophylaxis (p=0.000) and does not have clean toilet (p=0.048). Routine hand wash reduce the risk of STH infection (p=0.000 OR 10.91). Students involved in “Young Doctor Program” or another health promotion program (p=0.014) and previous oral prophylaxis are having lower risk of infection (OR 3.234 and OR 3.217 respectively). Knowledge about STH (p=0.659) and source of clean water (p=0.361) were not significantly affect infection rate. Community service (such as “The Clean, Green and Healthy” program) (p=0.031 OR 1.820) and community health promotion (p=0.000 OR 3.287) also correlated with lower risk of infection. Analysis of PHC policy reveals no specific-integrated program were conducted to eradicate STH. All government institution admit that there is no collaborative effort to diminish STH between schools, PHC and the government institution. Based on logistic regression test, community health promotion and oral prophylaxis were the most influencing factor. A new policy should be focused on community health promotion such as how to perform hand hygiene correctly, and integrating the STH education in “Young Doctor Program”. An annual screening should be done followed by oral prophylaxis using albendazole for primary school students. In community a “Hand Hygiene” briefing should be done in every meeting and gathering. The “Clean, Green, And Healthy” program should be extended to entire part of the city and evaluation should be performed together, between PHC, school and government institution.

\textbf{Keywords:} Helminth infection; Health Policy, School; Government; Primary Health Care.
Background: one important goal of the new health system reform launched in 2009, China, is to provide a package of equitable basic public health services (BPHS) for all residents. In rural China, primary healthcare workers (PHW), especially those in village clinics, were the major workforce to provide BPHS for residents. However due to their low education background and old age, village PHWs are lacking enough capacity to provide adequate public health service. Training is an important strategy to improve their capacity.

Objective: this study was aimed to investigate the current training status of public health service among village PHWs.

Methods: it was a cross-sectional study using questionnaire survey from May to September 2013. The study sites were in Hubei province, central China. A multistage cluster sampling method was applied and 2050 village doctors were sampled from four counties.

Results: the mean age of village PHWs is 47.6±10.1 years old, and 72.8% are male. 88.8% participants have an education background of high school or below and 73.1% have a major of clinical medicine (Only 4.7% have a major of public health).

There were two major forms of training on public health service among village PHWs: regular training during usual work meeting and specific professional training session. (1) 91.6% participants received regular training during usual work meetings in the past one year, which were usually held 1-3 times per three months. Each time 87.8% training duration was more than one hour and only 17.2% participants agreed that training time was sufficient. 57.2% participants showed satisfaction with the quality of training held in regular work meetings. (2) 86.4% participants joined specific professional training session on public health service in the past one year, which were usually offered by township hospital. 67.5% had a training duration less than one week and 18.1% agreed the training time was sufficient. 57.9% were satisfied with the quality of training in this format. Among those who hadn’t joined the specific training session, 41.3% said this was because their working was too busy and 37.9% said they hadn’t been informed of the training opportunity. (3) In addition, 61.6% participants had joined web-based training and 24.7% knew web-based training although they hadn’t joined it. However current web-based training is mostly about clinical medicine. 78.6% village PHWs showed willingness to join web-based training on public health service in future.

Conclusion: the current training time and quality on public health service is not sufficient for village PHWs. Most village PHWs showed willingness towards web-based training on public health service, which suggested that web-based training could be a good option for future training form on public health service.

Keywords: Public health service; Training; Primary healthcare workers.
Training Status of Public Health Service among Primary Healthcare Workers in Rural China

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Background:
one important goal of the new health system reform launched in 2009, China, is to provide a package of equitable basic public health services (BPHS) for all residents. In rural China, primary healthcare workers (PHW), especially those in village clinics, were the major workforce to provide BPHS for residents. However due to their low education background and old age, village PHWs are lacking enough capacity to provide adequate public health service. Training is an important strategy to improve their capacity.

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Keywords: Public health service; Training; Primary healthcare workers.
Active social network may prevent depression among the oldest Thai elderly persons aged 80 years and above

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Background: Nowadays global societies are seeing more and more people living into their 80s and 90s. With advancing age, they are prone to social isolation which is a globally overlooked public health problem. Moreover, depression is as common as 20% in those oldest seniors. Thailand which was home to 8.5 million elderly people aged 60 years and above in 2010, became the fastest population aging country in Southeast Asia. People aged 80 years and older, meanwhile, constituted 11.5% of the population, and estimated to increase, to 23.6% by 2050. Research investigating (1) the nature and diversity of social networks among the seniors aged 80 years and older and (2) the relation of social network diversity to their depression in Thai society is still scant. Current study aimed to fulfill those research objectives.

Method: This study was a community-based cross-sectional survey conducted in Chiang Mai province, Northern Thailand. A representative sample of 435 community residents, aged 80 years and above, were included in the study. The sample size ensured the power of the finding with a 95% confidence interval, and to represent the population of 10461 people aged 80 years and above living in 25 districts of Chiang Mai province. Multistage sampling was applied in a stratified proportionate approach. Taking into account the geographical area, population size, and whether rural or urban districts. The participants’ social network diversity applying Cohen’s Social Network Index (SNI), depression applying the Geriatric Depression Scale (GDS) and Activities of Daily Living (ADL) measures were carried out, through interviewer-administered questionnaires, during home visits. Descriptive analyses revealed the distribution of SNI, whilst the relationship between the SNI and GDS was examined by ordinal logistic regression models controlling possible co-variants such as age, gender and educational attainment.

Result: The median age of the sample was 83 years, with females comprising 55% of the sample and males comprising 45%. The most frequent contacts of the oldest seniors were their children whereas their neighbors ranked second and members of Buddhist temples ranked third. A quarter of the oldest seniors (25%) were at risk of social isolation due to having a ‘limited’ social network group (SNI 0 to 3), whereas 37% had a ‘medium’ social network (SNI 4 to 5), and 38% had a ‘diverse’ social network (SNI 6 and above). The SNI was not different among the two genders. GDS scores were the least (5.19 ±4.2) in the ‘diverse’ social network group, (6.5 ±4.5) in moderate and the highest (7.35 ±5.17) in limited’ social network group. The statistical significance in three multivariate ordinal logistic regression analysis models revealed that a rich social network is negatively associated with geriatric depression.

Conclusion: Regular and frequent contact with various social contacts may prevent depression among persons aged 80 years and above. Therefore, screening those at risk of social isolation is recommended to be integrated into routine primary health care based geriatric assessment. Intervention programs which would preserve and promote the social networks of the elderly may serve to reduce the problem of geriatric depression.

Key words: social network, long term care, aging, SNI
FIRST RE-DRINKING AMONG THAI ALCOHOL-DEPENDENT PATIENTS AFTER 1 YEAR HOSPITAL DISCHARGE

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Background: People with alcohol dependence have various drinking patterns. They are also at high risk of re-drinking after an inpatient treatment. Little is known about the pattern of first re-drinking within one year after hospital discharge.

Aims: To examine quantity of the first re-drinking and the frequency of drinking in each day among Thai alcohol-dependent patients within 1 year of hospital discharge.

Methods: Six hundred and eighteen alcohol-dependent patients in an inpatient department of the two tertiary hospitals in the north of Thailand who received follow-up within 1 year after hospital discharge. Data from the questionnaire of symptoms and health behaviors after hospital discharge was analyzed using descriptive statistics.

Results: The average of amount of the first drink after hospital discharge was 5 standard drinks per day, and they usually drank once a day. The trend of frequency of drinking in each day of male patients increased whereas frequency of drinking among female patients decreased from month 6 up to month 12.

Conclusion: The first re-entry into drinking of alcohol-dependent patients is often through heavy drinking. A difference in pattern of drinking by gender has been presented throughout the one year follow-up period. Therefore, a policy brief of heavy drinking prevention should be developed and implemented on a community level in order to reduce the risk of serious symptoms and chronic disease. By focusing on prevention within communities, the roles and responsibilities of male and female re-drinking patients can be better understood and prevented.

Keywords: alcohol-dependent patients; first re-drinking, frequency; hospital discharge; quantity.
SEXUAL BEHAVIORS AND CONDOM USE OF STUDENTS IN THAILAND.

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College of Public Health Sciences, Chulalongkorn University, Thailand

Background:
Practicing safe sex behavior is one main important issue towards target of reducing new HIV infection, sexually transmitted infection and also prevention of unwanted pregnancy as stated in the Thai National AIDS Strategy for 2014-2016. Due to the current context favorable for sexual relation among students

Objectives:
Aims to study factors relating to sexual behavior and condom use among students in Thailand. Findings from the study can inform how HIV prevention among students should be planned.

Methods:
This quantitative study use the cross sectional survey among students of vocational and extended schools in 1 urban and 2 rural areas in each province for 5 provinces distributed in 5 geographical areas in Thailand. Self answered questionnaires were used during December 2013 – February 2014.

Results:
Among total sample of 3,796 respondents, 58% was male and the average age was 16.6± 3.1 years. More than half, their parents worked in agriculture and daily. 39% of students knew that their family had debt and 25% of them had special jobs or worked during weekend or their free time. Their fathers and mothers lived together for 68%. They stayed with their parents or cousins for 82%. 56% of vocational students had sex experience which was 3.2 times more than students in extended schools. Male students had sex experiences more than female students statistically significantly (p<0.01). First sex partners of vocational and extended school students were not different – 70% were friend in the same or other schools, 19% were their acquaintances. First sex partners of female students were their acquaintances for 37% which was 4 times higher than male students. Condom use for first sex was 61% which was not different between male and female students. Context leading to have sex included festival, party and going to friends’ houses. During the previous year, one-third had sex, 71% did not use condoms and only 12% used condoms consistently. Male students used condoms more than female students. Reasons to use condom were to prevent pregnancy and prevent STI respectively. No condoms available was the main reason not using condoms. The second rank reason was their partners or even they themselves did not want to use condoms.

Discussion:
Students from both vocational and extended schools had active sex experiences while a safe sex practice was low. Their sex partners were among their friends and acquaintances which might be the reason why they or their partners did not want to use condoms. However, the main reason reported was no condoms available at that time. Meanwhile findings that festival and parties were context leading to sex, preparing condoms when joining festival or parties as well as pointing out the dual advantages of condom use for both pregnancy and STI prevention should be key messages for students.

Key word: Sexual behavior; Condom use; Vocational education student; Extended school student.
Prevalence of passive drinking in Hong Kong adolescents

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²School of Public Health, University of Hong Kong, Hong Kong SAR
³Zhejiang Medical College, Hangzhou, China

Funding: Health and Medical Research Fund (12132661)

Background: Passive drinking refers to the harms and social consequences people experience due to others’ alcohol use. These range from minor inconveniences to serious violence and abuse. Adolescents are typical victims of passive drinking. Passive drinking is understudied in non-Western populations, especially in adolescents.

Objectives: We present the preliminary findings of an on-going school-based cross-sectional survey (to be completed by August 2016) to estimate the prevalence of passive drinking and its factors in Hong Kong adolescents.

Methods: A total of 1955 Secondary 1 (US Grade 7) to 6 students from 8 randomly selected schools completed an anonymous questionnaire from November 2015 to March 2016. Students indicated whether they had experienced (ever, past 12 months, past 30 days) each of 16 types of passive drinking (e.g. noise, feeling unsafe, sexual harassment, accidents, financial loss), and if so who (e.g. father, friends, neighbours) caused it. They also reported the overall perceived severity of passive drinking with response options from not at all to very serious. Socio-demographic characteristics (e.g. age, sex) and drinking status were also reported. The data were weighted by age and sex distribution of all Hong Kong secondary school students.

Results: The mean age was 14.6 (SD 2.0) years and 51.5% were boys. The overall prevalence of passive drinking was: ever 41.8% (95% CI 37.1%-46.7%), 12-months 38.0% (33.2%-43.1%), and 30-days 30.6% (25.8%-35.9%). In the past 12 months, the most common types of passive drinking such as noise (19.9%) and study or sleep interrupted (16.2%) were mild. More serious consequences such as sexual harassment (1.4%), unwanted sexual intercourse (0.3%) and accidents (0.6%) were also reported. Consequences on mental well-being were more commonly reported by girls than boys (e.g. feeling neglected 18.4% vs 9.2%, emotionally hurt 13.5% vs 8.4%) (all Ps<0.01). However, more boys than girls reported sexual harassment (1.9% vs 0.9%) (P=0.02). Overall, more current drinkers than non-current drinkers reported passive drinking (44.9% vs 31.5%), from minor disturbance (e.g. troubled by litter 7.7% vs 4.8%) to violence (e.g. pushed, hit or assaulted 10.3% vs 5.8%) (all Ps<0.01). Of those who reported passive drinking, 6.7% considered it moderate or serious overall, but more so in non-current drinkers than current drinkers (6.1% vs 1.5%, P=0.005). Friends (37.0%) were the main source of passive drinking, which was reported more frequently by girls than boys (40.8% vs 32.9%) and by current drinkers than non-current drinkers (45.8% vs 25.0%) (all Ps<0.01). Other common sources of passive drinking included strangers (16.5%), fathers (12.1%) and neighbours (11.4%). The mother as a source was reported by 6.2% of students and was more commonly reported by girls than boys (9.7% vs 2.4%) (P=0.008).

Conclusions: Preliminary evidence shows substantial proportions of Hong Kong adolescents have experienced passive drinking, most commonly caused by friends. Current drinkers were more likely to be victims in general and more girls reported consequences on mental well-being. Alcohol control policies are needed to protect adolescents from the direct and indirect harms of alcohol drinking.

Keywords: Adolescents, Alcohol, Passive drinking
Effect of facial remodeling by Botulinum toxin on self-esteem - A pilot study

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² Pan Rajdhevee Suphanannahong Foundation, Bangkok 10300, Thailand

Background:
The definition of "beauty" can define in many ways. In Asia, many people believed that the slimming face or more triangular face is classic ideal of face. Regarding to body image is closely connected to self-esteem. Self-esteem may matter to these people.

Objective:
To determine the effect of facial remodeling by botulinum toxin injection on self-esteem.

Methods:
Sixteen participants were enrolled for a prospective interventional study for 1 month duration. The self-esteem was assessed by Rosenberg Self-Esteem Scale (RSES) at baseline and at 1 month after facial remodeling by botulinum toxin injection at masseters muscle. Satisfaction of participants and any side effects were evaluated at the final visit.

Research Framework

Outcome measurement

<table>
<thead>
<tr>
<th>Assessment</th>
<th>1st visit</th>
<th>2nd visit</th>
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</thead>
<tbody>
<tr>
<td>Rosenberg Self-Esteem Scale</td>
<td>/</td>
<td>/</td>
</tr>
<tr>
<td>Side effects</td>
<td>/</td>
<td>/</td>
</tr>
</tbody>
</table>
| Patients' self assessment (satisfaction) | / | /

Data analysis:
All data will be expressed in the form of means and standard deviations (SD). Paired t-tests will be used to compare mean of the difference of RSES at baseline and at 1 month after treatment. All data will be analysis using SPSS software. Statistically significant in all cases will be considered at the p-value < 0.05.
**Results:**
Participants’ ages ranged from 22-40 (mean 31.5). There were 13 females and 3 males. 1. Rosenberg’s self-esteem scale (RSES): The tables below provide information that mean and standard deviation of RSES at baseline and RSES at 1 month after treatment equal to (20.94, 3.89) and (23.38, 3.46) respectively. There was a significant difference of Rosenberg’s self-esteem scale (RSES) between baseline and 1 month after treatment (Mean=2.43750, SD=2.78) conditions; t=3.507, p = 0.003.

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>N</th>
<th>SD</th>
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</thead>
<tbody>
<tr>
<td>Pair 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-intervention</td>
<td>20.937</td>
<td>16</td>
<td>3.88962</td>
</tr>
<tr>
<td>RSES</td>
<td>5</td>
<td></td>
<td></td>
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<tr>
<td>Post-intervention</td>
<td>23.375</td>
<td>16</td>
<td>3.46170</td>
</tr>
<tr>
<td>RSES</td>
<td>0</td>
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<td></td>
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<tr>
<td>Pre-post intervention RSES</td>
<td>2.43750</td>
<td>16</td>
<td>2.78014</td>
</tr>
</tbody>
</table>

Table 1: Mean and standard deviation of pre and post treatment RSES.

<table>
<thead>
<tr>
<th></th>
<th>t</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pair 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pre - post intervention RSES</td>
<td>3.507</td>
<td>.003</td>
</tr>
</tbody>
</table>

Table 2: Paired sample t-test

2. Patient satisfaction

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
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<tr>
<td>worse or no improvement</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1-25% clinical improvement</td>
<td>2</td>
<td>12.5</td>
</tr>
<tr>
<td>26-50% clinical improvement</td>
<td>3</td>
<td>18.75</td>
</tr>
<tr>
<td>51-75% clinical improvement</td>
<td>5</td>
<td>31.25</td>
</tr>
<tr>
<td>&gt; 75% clinical improvement</td>
<td>6</td>
<td>37.5</td>
</tr>
</tbody>
</table>

3. Side effects: There was no serious side effect reported in these patients.

**Conclusion:**
This study reveals that facial remodeling by botulinum toxin can positively effect on patient satisfaction and patients’ self-esteem that reflect mental or psychosocial aspects.

**Keywords:** Self-esteem; Botulinum toxin; Masseter reduction; Facial aesthetics; Quality of life.
FACTORS ASSOCIATED WITH UNDERNUTRITION AMONG CHILDREN 6-36 MONTH: HOSPITAL BASED STUDY IN QUETTA, BALOCHISTAN, PAKISTAN

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Background
Nutrition is truly a global issue and central to the concerns regarding the health and well-being of the children throughout the world. Because of the poverty and other factors, people are facing the nutritional problem. There are more than 150 million malnourished children under the age of 5 years in the world. Among malnourished children, 35 percent of the estimated 9.2 million deaths among children under-five, are associated with undernutrition. In Pakistan, malnutrition in children has been directly linked to illiteracy of mothers, low family income and larger family size. Conducting this research in Balochistan can explain the prevalence of undernutrition and factors associated with undernutrition.

Objectives
General objective
To examine the prevalence of undernutrition and factors associated with undernutrition in children aged 6-36 months in Quetta, Balochistan, Pakistan.
Specific objectives
1. To examine the prevalence of undernutrition in children aged 6-36 months in Quetta, Balochistan, Pakistan.
2. To identify the maternal factors in terms of age, education, occupation, marital status, family size, family income and child feeding practice associated with undernutrition among children aged 6-36 months.
3. To examine the child factors in terms of age, sex, birth weight, birth order and immunization associated with undernutrition among children aged 6-36 months.

Methods
Undernutrition is one of the most important health problems among children in world as well as in Pakistan. This cross-sectional study aimed at examines the prevalence and factors associated with undernutrition in Quetta, Balochistan, Pakistan. The study samples were 177 children aged 6-36 month who visited hospital in Quetta, Balochistan, Pakistan, children's mothers were asked to complete face to face structured interview and self-administered questionnaires. Data analysis was conducted by using descriptive statistics, Chi-square test and independent t-test.

Results
Results revealed that 19.8% was undernutrition and 80.2% was normal nutrition. The average age of undernutrition children was 20 months (SD=7.74). In this study, undernutrition was identified by using weight for height, with the cutoff point <-2SD according to World Health Organization's recommendation. From analysis, it found that there was significant association between family income and undernutrition at p-value=0.030. However, the other factors like age, education, occupation, of mothers, family size, child feeding practices, age of child, immunization, birth order and birth weight were not associated with undernutrition (p-value >0.05).

Conclusion
The study was done among 6-36 month children in Quetta, Balochistan, Pakistan. It was found that 35 children out of 177 children were undernutrition. So the prevalence for undernutrition for this study was 19.8%, which was higher than the figure of National Survey in Balochistan, Pakistan which was 18.6% Results indicate that under nutrition had still appeared to be one of serious health problem in Quetta, particularly among 6-36 month old children. From findings, health education and nutritional education program for exclusive breast feeding, supplementary food, and child feeding practice should be implemented and should more focus on mothers in poor family group.

Keywords: Undernutrition; 6-36 months children; Weight for height.
Factors affecting Sexual Intercourse Intention among Young Unmarried Men in Indonesia: an Analysis of the 2012 Indonesian Demographic and Health Survey

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About 1 percent of Indonesian boys are reported to have had sexual intercourse before age 13 years (UNICEF Indonesia, 2012). Unlike females, males are more likely to approve of premarital sex and more likely to report having had sex before marriage, some saying they believe in the necessity of sexual experience before marriage. The absence of comprehensive sexuality education in the school curriculum has inhibited young people to get the right information about sex and reproductive health. Health promotion program for young people, such as risk behaviors prevention, have not been a focus for the government. The objective of this study is to examine the relationship between risk behaviors and sexual intercourse intention among unmarried men. Sexual intercourse intention was chosen as a dependent variable since it can be used to assess potential for premarital sex, especially the associated risks such as pregnancy and sexually transmitted infections among unmarried adolescents in the future. This cross-sectional study was using data from the 2012 Indonesian Demographic and Health Survey. By using multiple logistic regression analysis, the researchers examine the association between the intention to have sexual intercourse soon and other risk behaviors. We find that risk behaviors (tobacco, alcohol and drug use) is positively correlated with sexual intercourse intention. If the behaviors of smoking, drinking alcohol and using drugs can be controlled, then the intention teenagers to have sexual intercourse would be expected to decline. The program for risk behaviors prevention should be integrated with life skills education (including comprehensive sexuality education) to improve health quality of young unmarried people.

Keywords: Comprehensive sexual education; Health quality; Indonesia.
FORCED DRINKING IN HONG KONG ADOLESCENTS

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Rong HUANG¹,³, Tai Hing LAM¹

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³Hangzhou Medical College, Hangzhou, China

Funding: Health and Medical Research Fund (12132661) by Food and Health Bureau, the Government

Background: Forced drinking refers to extra alcohol consumption under subtle or overt pressure, usually for social acceptance or showing respect in social gatherings. It is common in Asian culture, but has never been studied to our knowledge.

Objectives: We investigated forced drinking in Hong Kong adolescents, overall, by sex and by drinking status, using preliminary data from an on-going school-based cross-sectional survey.

Methods: A total of 1955 Secondary 1 (US Grade 7) to 6 students (mean age 14.6±2.0, 51.5% boys) from 8 randomly selected schools in Hong Kong completed an anonymous questionnaire from September 2015 to March 2016. Students were classified into never, less-than-monthly and at-least-monthly drinkers. Any experience of each of 6 forced drinking situations (being asked to drink by someone superior, toasting to others, peer pressure, drinking games, drinking for others and other situations) ever in lifetime, in the past 12 months and in the past 30 days were reported. They also indicated the extra amount of alcohol consumed in the last incident of forced drinking and the perceived overall severity of impact (none/mild/moderate/serious) of forced drinking on them. Data were weighted by age and sex. Chi-square test and t-test were used to examine differences by sex and drinking status.

Results: Half the students (49.2%) were ever drinkers, including 38.1% less-than-monthly and 11.1% at-least-monthly drinkers. The overall prevalence of forced drinking was: ever 13.7% (95% CI 10.4%-17.7%), 12-months 11.3% (8.3%-15.2%) and 30-days 6.1% (4.1%-8.9%). The past 12-month prevalence was non-significantly higher in girls than boys (12.0% vs 10.6%, P>0.05) and significantly higher in at-least-monthly than less-than-monthly drinkers (40.0% vs 22.0%, P<0.001). Forced drinking most commonly occurred under peer pressure (6.8%) and during drinking games (6.5%), regardless of sex and drinking frequency. Other situations included drinking for others (4.6%), being asked to drink by someone superior (4.0%) and toasting to others (3.5%). In the last incident of forced drinking, 1.8±1.7 extra units of alcohol (1 unit=10g pure alcohol) were consumed on average. The amount of extra alcohol consumed was similar in both sex, but was significantly greater in at-least-monthly than less-than-monthly drinkers (2.7 units vs 1.4 units, P<0.001). Some (4.7%) of the students experiencing forced drinking in the past 12 months considered the impact moderate or serious. Such perception was more common in girls than boys (6.4% vs 2.7%, P>0.05) and in at-least-monthly drinkers than less-than-monthly drinkers (7.1% vs 3.4%, P>0.05), but the differences were not significant.

Conclusions: More than one-tenth of Hong Kong adolescents have experienced forced drinking in the past 12 months, most commonly under peer pressure and during drinking games. The prevalence and amount of extra alcohol intake increased with drinking frequency, forming a vicious cycle between underage drinking and forced drinking. Drinking less often seems to protect against forced drinking. Interventions are needed to counter the culture of forced drinking in Hong Kong.

Keywords: Alcohol; drinking; forced drinking; adolescents.
FACTORS AFFECTING THE OCCUPATIONAL HEALTH AND SAFETY MEASURES AMONG MYANMAR MIGRANTS IN SEAFOOD PROCESSING FACTORY IN SAMUT SAKHON PROVINCE, THAILAND

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ASEAN Institute for Health Development, Mahidol University, Thailand.

The cross-sectional study was conducted to identify factors associated with the occupational health and safety measures among Myanmar migrants in seafood processing in Samut Sakhon province, Thailand from April-June 2016. Participants in this study was 420 Myanmar migrants who are registered or not and aged 18-60 years old. Data were collected using a semi-structured questionnaires by sampling method. Data were analyzed using descriptive, Chi-square test and multiple logistic regression analysis.

Regarding to the age group distribution, about half of respondents had above 25 years of aged. The proportion of male and female in this study was nearly the same, 50.1% and 49.8% respectively. For the education level, most of the respondents had middle school level. Furthermore, most of the respondents had more than 5 years work experience in seafood processing factories. It was clear that more than half of them had the history of occupational injuries. According to the result of this study, the main source of the information for the practice of occupational health and safety was organization (workplace) and the other sources were friends, governmental and self study. In addition, more than half of the respondents had good knowledge for occupational health and safety.

Using multiple logistic regressions, there are 6 predictive factors that associated with occupational health and safety measure. According to the result of the study, the way of information from factory, perceived benefits for occupational hazards and organizational support were strongly associated than other predictors, with OR 2.671 (95% CI: 1.300-5.488), OR 2.995 (95% CI: 1.780-5.041) and OR 2.361 (95% CI: 1.398-3.986) respectively.

The result of this study could implemented with the combining actions such as targetd intervention and evaluation programs for occupational health and safety in Royal Thai government, simultaneously. In addition, this study would provide not only to proficiently improve workplace safety behavior, but also the quality of life of Myanmar migrants workers in Thailand.

Keywords: Occupational health and safety; MYANMAR MIGRANT WORKERS; SEAFOOD PROCESSING FACTORIES; THAILAND.
Factors promoting continuation of breastfeeding among children aged ≤ 2 years in rural Bangladesh

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ASEAN Institute for Health Development, Mahidol University, Thailand

Objectives:
The objectives were to determine the prevalence of breastfeeding and exploring the promoting factors regarding this continuation among mothers having children aged ≤ 2 years in rural Bangladesh.

Methodology:
A cross-sectional study was conducted in seven districts of Bangladesh among 2706 mothers having children aged 0-24 months. Two stage stratified sampling technique was done to identify eligible mothers randomly from 6,500 household. A structured questionnaire was used for the interviews of mothers that require the information regarding socio demographic and economic, maternal and infant characteristics and source of support and information of mothers.

Results and discussions:
The prevalence of breastfeeding was 94.3% for ≤ 2 years children. Length of exclusive breastfeeding of the child was significantly associated for the continuation of breastfeeding (OR 3.11; 95% CI 1.61-4.85) after adjusting education, occupation, income, BMI, knowledge and ANC visits. However, there is no significant association was found with maternal characteristics and the continuation of breastfeeding among the age group < 4 years.

Conclusion:
Even though high prevalence of breastfeeding has been observed regarding continuation of breastfeeding among children aged ≤ 2 years but mothers had low income and education, mostly were underweight and very limited support from media and family. Near future exclusive breastfeeding promotion program along with appropriate complementary feeding for the sustainability of the prevalence need to be considered based on the community setting.

Keywords: Bangladesh; Continuation of breastfeeding; Promoting, prevalence.
Determinants of Home Physical Punishment on Children Aged 1 to 14 Years in Vietnam

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ASEAN Institute for Health Development, Mahidol University, Thailand.

Objectives:
Home violence on children aged 1-14 years was found popular in Vietnam however, there was a little known about that. This study examined the relationship between home physical punishment on children with its risk factors related socioeconomics and maternal factors in Vietnam.

Methodology:
Secondary data collected from 2013-2014 through the fifth round of the Multiple Indicator Cluster Survey (MICS5) – a household survey administered by the United Nation Children’s Fund (UNICEF) that focus on children and women. 5231 children aged 1-14 years old are included in this study. Bivariate and multivariate analyses were used to examine the association between risk factors and physical punishment.

Result:
Children who are male, live with the Christian household head, and live with mother attaining primary education have significantly higher risk than those children who are female, living with Buddhism household head, and living with mother attaining tertiary and higher education. Additionally, children whose age is from 8 to 14, live in rural area, reside in Northern Midlands and Mountain area, and live in richest household were statistically lower risk than children aged from 1 to 7, living in urban area, residing in Red River Delta region, and living in middle-wealth index household.

Conclusions:
Risk factors for physical punishment identified in this study can support future interventions to promote good practices in child rearing and protect Vietnamese children from home violence.

Keywords: Physical punishment; Child violence; Home violence; Children aged 1-14, MICS5, Vietnam.
The Relationship between asthma and obesity among older adults in the communities of Thailand

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\textsuperscript{1} Huayplau Hospital, Nakhonchaisri, Nakhonpathom province, Thailand, \textsuperscript{2} ASEAN Institute for Health Development, Mahidol University, Salaya, Phutthamonthon, Nakhonpathom, Thailand.

This cross-sectional study was conducted to discover the prevalence of asthma and to describe the association between asthma and obesity among older adults in the communities of Thailand. The sample of 3977 older adults aged 50 years and older from six regions was participated in this study during the data collection phase between January and March, 2016. Face to face questionnaires in Thai were used to collect data using multi-stage cluster sampling. Chi-square tests and multiple logistic regression were used to examine the association between independent variables and asthma.

The results showed that the prevalence of asthma among older adults in the communities of Thailand was 2.1%. There was no association between asthma and obesity among this population. However, asthma was found to be significant associated with types of residence (Adj. OR=2.01, 95% CI=1.06-3.83), ischemic heart disease (Adj. OR=4.31, 95% CI=1.63-11.42) and low back pain (Adj. OR=4.38, 95% CI=2.50-7.68) among older adults. Multiple logistic regression showed that these three factors were still statistically significant associated with asthma when adjusted with other factors.

In conclusion, there are many aspects about asthma and obesity among older adults in Thailand which need further researches for investigation the unclear problems.

Keywords: Asthma; Obesity; Older Adults; Communities; Thailand.
FACTORS ASSOCIATED WITH DEPRESSION AMONG OLDER AGE OVER 49 YEARS OLD IN THAILAND

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1Wihandaeng Hospital, Saraburi, Thailand
2ASEAN Institute for Health Development, Mahidol University, Thailand

OBJECTIVES:
Depression is the most common psychiatric disorder and the second most common cause of disability among older adults. The objective of this cross-sectional study was to investigate the prevalence of depression and the associated factors in older age over 49 years old in Thailand.

METHOD:
This study was randomized people and village in sixteen community hospitals from thirteen provinces across different regions of Thailand in 2016. Participants (n = 3738) were random from a people who aged 50 years and older. The older depression was evaluated by the DSM 4 criteria. The prevalence was identifies and Multivariate logistic regression was used to investigate factors associated with depression in terms of their sociodemographic and health-related characteristics.

RESULTS:
The prevalence of depressive symptoms in older was 6.77 %.Our study revealed that Age , Religions denomination, Gender, Type of resident, Marital status, Educational level, Ethnic, Health insurance coverage, Occupation, lifestyles-related factors, and Anthropometric measurements not relate to depression. The results were significant factors associated with depression in post graduate education (OR = 2.20, P < 0.001), who not have occupation (OR = 6.58, P < 0.001), low income (OR = 2.56, P < 0.001) and chronic illness (OR = 4.37, P < 0.001) showed the significant of depression

CONCLUSIONS:
The prevalence of depressive symptoms is higher in low income, no occupation and chronic illness. Development and implementation of prevention strategies, including management of chronic illness, individual's health status, and economic improvement, could possibly reduce the impact of depression in older adult.

Keyword: Associated factor; Depression; Older adult; Thailand.
Performances of proactive community-based Diabetes Screening with Questionnaire, Random Capillary Blood Glucose test and HbA1c test at BanThaen District in Chaiyaphum Province of Thailand

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1 Chaiyaphum Provincial Health Office, Ministry of Public Health, Chaiyaphum province, Thailand 36000
2 ASEAN Institute for Health Development, Mahidol University, Nakornpathom Province, Thailand 73170

Background:
Because the conventional diabetes screening program (Thai Diabetes Risk Score (TDRS), Fasting Capillary Blood Glucose (FCBG) and Fasting Plasma Glucose (FPG)) was inconvenient. This study used the serial combination test of TDRS, Random Capillary Blood Glucose (RCBG) and HbA1c which did not take a fasting period.

Objectives:
to evaluate the performance of the combination tests TDRS, RCBG and HbA1c for diabetes screening program setting which should be used in selective group screening of Thai population in the rural areas and to compare the performance between the conventional program and the conventional program.

Methods:
A cross-sectional observational study was design. Of 441 participants aged ≥35 years without known diabetes were randomly selected by multi-stage stratified sampling. All had taken FPG and 2 hours post-load plasma glucose as the gold standard tests. RCBG was measured by using the biosensor method glucose oxidase enzyme portable device and HbA1c was measured by using the Boronate affinity method. Base on receiver operating characteristic curve, optimal cut-off points for diabetes diagnosis were defined and performance statistics were compared between the two programs.

Results:
The incidence of diabetes was 11.3%. The convenient program had been using TDRS cut-off point 6 points, RCBG cut-off point 135mg% and HbA1c cut-off point 7.2%. For identifying Newly Diagnosed Diabetes (NDD), it had sensitivity of 38.0%, specificity 95.9%, Positive Predictive Value (PPV) 54.3%, Negative Predictive Value (NPV) 92.3%, kappa statistic 0.390 and proportion of agreement of 89.3% (p<0.001). The conventional program had been using TDRS cut-off point 6 points, FCBG cut-off point 126 mg% and FPG cut-off point 126mg% which performance of this identifying NDD had sensitivity of 22.0%, specificity 100%, PPV100%, NPV 90.9%, kappa statistic 0.333 and proportion of agreement of 91.1% (p<0.001)

Conclusion:
The combination of TDRS, RCBG and HbA1c was moderate accuracy index and fair agreement. It had specificity as same as conventional program, but it had better both sensitivity and a reliability index.

Keywords: Diabetes Screening; Screening test; RCBG; HbA1c; A1C; T2DM; Pre-diabetes.
HP0133

Insomnia associated factors among the older adults in Thailand

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OBJECTIVES:
As insomnia is major complaint, especially among the elderly in Thailand, we aimed to estimate insomnia prevalence among the elderly in Thailand as well as to determine factors associated with insomnia in the elderly.

METHOD:
This study was randomized people and village in sixteen community hospitals from thirteen provinces across different regions of Thailand in 2016. Participants (n = 3769) were random from a people who aged 50 years and older. The older insomnia was evaluated by 4 criteria. The prevalence was identifies and Multivariate logistic regression was used to investigate Insomnia associated among the older adults in Thailand

RESULTS:
The prevalent of insomnia among the older adult in Thailand is 45 %. The sample, groupage 50-59 years, is highest with 37%, followed by the age group between 60-69 years amounted to 35.9%. The group includes male 36.6%, female 25.5%, Single 63.4%, married 74.5%, primary education 20.3% and higher 79.7%, mainly ethnic Thailand 99.1%, Buddhist 92.6%, farmers 67%, worked in private companies 25.4%, state employees 7.6%. The research discovered that the sample farmers (AOR =1.467 , P = .000), state employees (AOR = 1.495 , P = .014) and hypertension (AOR =1.134 , P = .159) were associated with insomnia.

CONCLUSIONS:
The prevalence of insomnia is higher in the occupation and hypertension. In order to use the knowledge derived from this study as a guide in providing better prevention, better remedy and better suggestion of the insomnia management for older adult people in Thailand in the future.

Keyword: Associated factor; Insomnia; Older adult; Thailand.
In Thailand, the prevalence of dental caries in preschool children has been a major oral public health concern. This study aimed to determine oral health literacy scores among caregivers of children aged 0-3 years old and to compare mean scores of oral health literacy between demographic factors of caregivers in Ratchaburi Province, Thailand. A cross-sectional study was conducted to collect data from caregivers who are parents or relatives. The multistage cluster sampling was used to draw a sample of 262 caregivers having children aged 0-3 years. A face to face interview with the structured questionnaire was used to collect the data. The independent t-test and one-way ANOVA were performed to compare mean scores between groups in socio-demographic factors. If the assumption of ANOVA was violated Kruskal-Wallis test was performed.

The results demonstrated mean and sd scores of six oral health literacy (OHL) skills among caregivers: Cognitive ($\bar{x}$=4.1, s=1.5), Accessibility ($\bar{x}$=10.4, s=6.6), Communication ($\bar{x}$=13.7, s=8.5), Decision ($\bar{x}$=12.3, s=4.5), Self-management ($\bar{x}$=11.0, s=6.9), Media literacy ($\bar{x}$=11.6, s=7.5). The OHL score was not high ($\bar{x}$=63.1, s=34.1) which ranged from 5 to 108. The OHL mean score was detected significant difference among age groups, education levels, occupations, income levels, number of children, relations to children except sex. The OHL mean score was larger when their education levels were higher as well as income levels. Parents has OHL mean scores higher than relatives. The OHL mean score of families having one child was higher than those having more than one.

Oral health literacy campaign should be promoted among caregivers who are relatives having a low level of education and income. In addition, the campaign should be focus on the families having more than one child.

Keywords: Oral health literacy; Caregivers; Preschool children; Thailand.
Function disability and quality of life in elder aged 50 years and over in Banpho district, Nakhonnayok Province, Thailand

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Background:
The assessment of activity of daily living (ADL) is essential in the care for older people to understand the level of function and disability, so comprehensive care could be planned, with ultimate goal to improve the quality of life of the older population. However, there is limited information on the disability and factor associated to the quality of life of the older Thai population.

Objective:
To evaluate the severity of disability and quality of life in people aged 50 years and over in Banpho district during 2015-2016 and to find the association between quality of life and level of dependence or other relate factor.

Method:
A cross-sectional study is conducted using a multi-stage random sample of 314 elderly people in Banpho district ages 50 years and older. The inclusion criteria was people 50 years over and would be exclude if he/she didn’t live in Banpho district or could not communicate. The tool had been translated had validated by research team and administered through a face to face interview.

Results:
The prevalence of disability in Basic Activities of Daily Living (ADL) was 2.2% while it was 11.8% in Instrumental ADL. The result from multiple logistic regressions showed significant association between functional disability. The result show both function disability that define by ADL and IADL have related with quality of life in elderly

Conclusion:
Elder Care aims to provide seniors with a better quality of life. To study the factors that affect the quality of life in dependent older people is important because it provides quality care for the elderly.

Keywords: Aging; Disability; quality of life, Function disability.
Socio-behavioural predictors of oral hygiene practices among preschool children in Ratchaburi province, Thailand

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Objectives:
To assess the current situation of associated socio-behavioural determinants on the oral hygiene practices in preschool children and their parents/caretakers in Ratchaburi province, Thailand.

Methodology:
A cross-sectional study of 338 preschool children and their parents/caretakers, randomly selected amongst the children aged 2-5 years in day care centres in the study areas. Data were collected by means of personal interviews.

Results and discussions:
Parental/caretakers' oral hygiene practices were the most influence and significant predictors of their children's oral hygiene practices (AOR=2.566, 95% CI=1.115-5.906, p=0.027). Even though parents/caretakers had good level in knowledge on oral health, the parents/caretakers who had negative attitudes towards oral health had significant increased odds of poor oral hygiene practices on their children (AOR=1.701, 95% CI=1.070-2.705, p=0.025). Poor oral hygiene practices among preschool children was significantly associated with other social factors such as the number of children in the family (AOR=1.691, 95% CI=1.053-2.717, p=0.030) and smoking status in the family (AOR=1.625, 95% CI=1.026-2.575, p=0.038).

Conclusions:
Oral health promotion programs need to be focused to the parents/caretakers to get better the oral health attitudes and oral hygiene practices that will benefit to the oral hygiene status of their children.

Keywords: Socio-behavioural predictors; Oral hygiene practices; Preschool children; Thailand.
Medication adherence is one of the determinants of the therapeutic outcome in diabetes patients. There are two available options for medication of diabetes, they are oral hypoglycemic agents (OHAs) medication and insulin (injection) medication. This study is emphasized on oral hypoglycemic agents (OHAs) medication only. A few data for prevalence of medication adherence among type 2 diabetes patients are available. So, the objective of this cross-sectional study was to explore the prevalence of medication adherence (OHAs) among type 2 diabetes patients in a private clinic of Yangon, Myanmar. A private clinic in Yangon was selected through random sampling method and type 2 diabetes patients were selected purposively by the physician. A total of 396 type 2 diabetes patients were interviewed by researcher between April and May 2016.

The 8 items Morisky Medication Adherence Scale (MAMS-8) was used to assess the medication adherence. The result showed that among 396 patients, 261 patients were classified as good adherence to oral hypoglycemic medication and only 135 patients were classified as poor adherence to oral hypoglycemic medication.

The result of this study highlighted the prevalence of oral hypoglycemic medication adherence among type 2 diabetes patients in a private clinic of Yangon, Myanmar. It needs to explore what patients’ behaviors or factors are associated with medication adherence. Moreover, the adherence among patients who are taking insulin injection should also explore because the prevalence will be different among the groups. After knowing the factors that affecting the adherence, then the proper strategy for intervention can be introduced.

Keywords: Prevalence; Type 2 diabetes; Morisky medication adherence; Myanmar.
SUSTAINED MOTIVATION TO STOP SMOKING IN A SMOKING CESSATION TRIAL; LESSON FROM THE ESCAPE TRIAL THAILAND

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Background
A strong determination is the key step to quit smoking. Easier said than done. Most of the smokers return to smoke, once they cannot overcome early withdrawal symptoms within a few initial months of smoking cessation attempt. Therefore, after triggering initial motivation to give up smoking, the challenge, in practice, is to sustain this motivation.

ESCATE trial was compared a new evidence-based smoking cessation service with routine smoking cessation service in the primary health care setting, Maetha, Lampang Thailand. Participants in the intervention arm received multiple-components intervention comprising: (1) a nurse’s assertive communication for 3 months, (2) pharmacological intervention such as nicotine chewing gum and (3) social support and taking care by close family member applying a smoking cessation diary and (4) monthly smokerlyzer. Control arm participants received routine service which comprised single session counselling by a nurse, assessment applying questionnaires and casual encouragement.

Objective
To compare the level of smokers’ motivation to stop smoking at 1st month and 3rd month follow ups, (1) between the intervention and control arms, and (2) within intervention arm

Method
Randomized controlled trial was approved by two ethic committees, registered as internationally and conducted from 2013 to 2015. Participants were smokers attending 7 primary care NCD clinics for hypertension or diabetes or both diseases. Block randomization allocated 158 participants in intervention arm and 162 in the control arm, with informed consent. Their motivation to stop smoking was measured three times: at base line, first month and third month follow ups applying the Motivation to Stop Scale (MTSS). MTSS was a single-item measure composed of key motivational constructs validated by a previous population-based study. Its score ranged from 0 to 8. Sign-rank tests, multivariate analysis of variants (MANOVA) and one way repeated measures ANOVA were applied.

Result
Median age was 64 years and 29 percent were female. The level of motivation to stop smoking at baseline, first month and third month follow ups were 4.28± 1.96, 5.2± 1.71, 5.59± 1.67 in the intervention arm whereas 4.10±1.89, 4.28± 1.60, 4.5±1.66 in the control arm. Comparing the levels of motivation between two arms, baseline levels were not significantly different but the levels of motivation to stop smoking in the intervention arm participants were significantly higher than those levels in the control arm participants, at one month and third month follow ups. ( P <0.001, MANOVA). Statistical significance
in repeated measures ANOVA showed sustained increase in motivation of the smokers to attempt cessation within the ESCAPE trial intervention arm. (P<0.001)

**Discussion**
Smoking cessation is high-priority intervention for prevention of non-communicable disease crisis in low and middle income countries. However, smoking cessation services are rarely accessible in primary care setting. Routinely practiced, single session discussion with a doctor or nurse may trigger smokers’ motivation to stop smoking but hard to sustain this motivation. Creating community based access to smoking cessation service and offering multiple component intervention package of assistance, medication or behavioral support is found to work in sustaining smokers’ motivation to stop smoking.

**Keywords:** Smoking cessation; Motivation; Family; Smokerlyzer.
OVERVIEW
ASD is now recognized as a serious public health concern. The Centers for Disease Control and Prevention (USA) estimates that one in every 68 school-aged children in the United States has an ASD. There is no official data on the numbers of people diagnosed as living with ASD in Vietnam. Early identification is important as it enables timely intervention which significantly improve outcomes for the children with ASD. However, young infants and children in Vietnam experience no routine development screening, and knowledge of primary health care providers on ASD is still very limited. Thus leads to a lack of early identification of ASD.

OBJECTIVES
In this presentation, we will:
• Describe our model of (1) developing a web-based m-health to do developmental and ASD screening and (2) integrating screening ASD in child health care check-ups at commune health stations.
• Discuss strengths and lessons learned of our innovation.

METHODS
Data for this presentation came from project reports, monitoring reports, back-end data, and reflections within research team.

RESULTS
The web-based m-health application (A365) for screening was developed for various users primarily caregivers and health care providers. The application can be used in smart phones, tablets and computer with connection to internet. Age Stage Questionnaires (ASQ) Vietnamese version 4 and MCHAT R/F are used for developmental and ASD screening respectively with permission from authors and publishing house. 25 health providers and kindergarten teachers of seven communes in My Hao, Hung Yen province received short training workshops on child development, ASD, ASQ, MCHAT-R/F and using A365 for screening. Each commune health station received one tablet for screening. Screening has been integrated when young children visit for health-check up, taking Vitamin A or immunization. Our protocol for screening is that the child firstly is screened by ASQ. Children who have one or more scores of ASQ in lower than standardized cutoffs will be referred to do MCHAT-R/F or further assessment. A total of 1290 ASQ and 69 M-CHAT R/F were administered from November, 2015 to March, 2016. The average time to do screening was about 10 minutes a child. Among 18 children were identified at risk of ASD, 9 children were diagnosed with ASD by assessment team of National hospital of pediatrics.

In addition to My Hao, the web-based platform has also received attention from care-givers and professionals nation-wide. Up to date, about 600 care-givers, from 50 cities and provinces, and 205 professionals (including health providers and kindergarten teachers) from 28 cities and provinces, registered for our application.

There are also some challenges. Health care providers have struggled with time pressure when integrating screening in immunization days. Internet connection, website design bugs and health care providers’ capacity in using computer and tablet are other limitations.

CONCLUSION
The model is potential solution for early identification of ASD. It is important to raise awareness on child development and screening for health provider. In addition, further analysis of back end data on users
and screening, and discussion with health providers might be needed to provide suggestions for scaling up.

**Keywords:** Screening; Autism spectrum disorders; Screening model; M-health.
PH0002

RISK OF HIV INFECTION AMONG THE SEASONAL LABOUR MIGRANTS OF MID TERAI REGION OF NEPAL

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Objective: The aim of this study was to assess the risk of HIV infection among the seasonal labour migrants of mid- terai region of Nepal.

Methodology: Analytical cross-sectional study was conducted to assess the risk of HIV among seasonal Labour migrants of three VDCs from three district(Mahottary, Sarlahi and Rautahat) of mid Terai Region of Nepal which is the transition point for seasonal migrants going to India. The study population was the male migrants of mid-Terai region visiting the study area who give oral consent and show interest to participate. 333 seasonal labor migrants’ men aged between 18 to 47 years who went to India for work for at least three months and have returned home within the last three years was selected purposively. Closed ended structured questionnaire and direct interview method was used in the study. analysis of data was done by using SPSS, Version 16. Univariate analysis was done at first of all the variables and then bivariate analysis was done using binary logistic regression analysis to see the association between different variables with dependent variables.

Results: The findings found that majority of migrants were 15-25 age group which accounts for the 69.4% of the total participants and most of the respondents were found Disadvantaged dalit caste group which accounts for the 60.96 % of the total participants whereas 3.9% of participants were upper caste as well minority religious group. Majority of the participants were Hindu which accounts 84.7% and other were Muslim, Buddhist and Christian (15.3%). About 42 percent of the participants had their sexual intercourse onset at the age less than 18 years of age. The majority of the Migrants were found to be married, i.e. 86.49 percent. Among those that had sex with women 42.68 percent ever had sex with Female sex Worker (FSW) and rest 57.33 percent had no sex with FSW in abroad It was reported that 61.25 percent ever had sex with FSW in Nepal among them those who had sex with FSW 79.59 percent of the participants used condom during last sexual contact with FSWs in Nepal whereas 20.41 percent of the participants had not used condom. About 27.27 percent of the participants had sexual contact with the male partner whereas 72.73% had reported never had sexual contact with male partners. 53.22 % used condoms when having sexual contact with the male partners and 46.77 did not used condom.

Among total respondents, 23.7 percent migrants were at risk of HIV and 76.3 percent migrants did not at risk of HIV. The risk of HIV in age group distribution found that, age group of 26-35 years was found to be 3.40 times higher in risk than 36-45 years. Similarly the risk of HIV was 4.643 times higher among age group 15-25 years as compared to 36-45 years. Among them Disadvantage Dalit caste had more risk than Upper caste. Similarly illiterate had more risk than Literate. In distribution of risk of HIV unmarried had high than ever married.

Conclusion: The Study showed that seasonal migrants of mid-terai region have increased vulnerability to HIV. The unmarried labor worker and disadvantaged caste group were in the higher risk of facing HIV infection. It is necessary to design better service delivery focusing on these areas and need to explore the real situations of labor migrants.

Keywords: Risk of HIV; Seasonal Migrants; Terai Reagion.
Despite of implementation of various control programs, the occurrence of kala-azar in several parts of Sunsari district has remained constant for last few years. This is partly due to inadequate information about the various risk factors associated with the disease. Very little is known about the influence of socioeconomic factors on kala-azar in disease-endemic areas of Sunsari district. Therefore, a case-control study was conducted to determine whether socioeconomic, behavioral, and household characteristics and lack of proper vector control are risk factors for occurrence of kala-azar. A case-control study was conducted with total of 36 kala-azar cases treated at different hospitals of Sunsari district and two each corresponding to case was selected randomly from the neighborhood whose family had no history of kala azar disease as control from the same village development committees. Univariate analysis showed that joint family, outdoor sleeping, no use of bed net, kaccha type of house, crack presence in the walls, presence of a granary and animal inside houses were positive risk factors. Multivariate analysis showed that joint family (OR: 3.77, CI: 1.25 – 11.28), presence of a granary and animal inside houses (OR: 6.69, CI: 2.50 – 17.89) and presence of cracks in the walls (OR: 4.66, CI: 1.47 – 14.82) were significant socio demographic risk factors for disease kala-azar. Socio demographic and environment factors were independently associated with of occurrence of kala-azar in endemic areas, so necessary prevention and modification in the respective areas can bring down the occurrence of the disease.

**Keywords:** Kalar-azar; Socio-demographic factors; Endemic; Sunsari district.
THE ROLE OF SLEEP PROBLEMS IN THE RELATIONSHIP BETWEEN CUMULATIVE EXPOSURE TO PEER VICTIMIZATION AND ANTISOCIAL BEHAVIOR: A FIVE-YEAR LONGITUDINAL STUDY

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Background: Peer victimization in children and adolescents is a serious public health concern. Despite the growing evidence of detrimental effects of peer victimization, the past research are most short-term and little is known about the moderating and mediating mechanisms that link peer victimization to subsequent antisocial behavior.

Objectives: To examine the longitudinal relationship between cumulative exposures to peer victimization in adolescence and antisocial behavior in young adulthood, and to determine whether sleep problems moderates or mediates this relationship.

Methods: Analyses included a total of 1,377 adolescents participated in a prospective study spanning 2009 through 2013 (47.13% male; average age at baseline was 14.67). The moderating role of sleep problems was examined by testing the significance of the interaction between cumulative exposures to peer victimization and sleep problems. The mediating role of sleep problems was tested by using bootstrapping mediation analyses. All analyses were conducted using SPSS 19.0 software.

Results: Adolescents exposed to higher levels of peer victimization during adolescence associated with increased risk for antisocial behavior in young adulthood and such effects were mediated but not moderated by sleep problems. Specifically, peer victimization exerts its influences on antisocial behavior indirectly via sleep problems such that peer victimization first increased levels of sleep problems and in turn, elevated the risk of antisocial behavior.

Conclusion: The findings demonstrate the detrimental effects of cumulative exposures to peer victimization on antisocial behavior. However, prevention and intervention programs that target sleep problems may yield significant benefits for decreasing antisocial behavior in adolescents who have been victimized by peers.

Keywords: Sleep problems; Antisocial behavior; Peer victimization; Adolescents
Developing a Training Program to Develop Competency of Regional Operating Officer in the Virtual Service Provider Office in Thailand

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Background:
Regional Service Provider is a key management mechanism created to realize the health service system development plans and also a mechanism established to bring about integration of all elements of the health system. However, a Service Provider Office to support the work of the executive has not yet been formally operations practitioners deployed, and there are no Training Program trained yet, which are based on necessary to develop Competency of Regional Operating Officer in each province. The purpose of this study was to develop Training Program to Develop Competency (Knowledge, skill, and Practice for Service Plan administration) of Regional Operating Officer in the Virtual Service Provider Office in Thailand.

Methods:
The study was conducted in four stages, as follows: (1) study and review of virtual regional office models from related documents and literatures; (2) analysis and synthesis of data gathered from the first stage and then creation of the components of a model; (3) justification of the components of the proposed model by experts and Regional Operating Officers (ROO); (4) evaluation by executives.

Results:
The research found that The Training Program was composed of 7 parts in 4 modules from 46 selected subjects, as follows: (1) Health Sector Reforms; (2) Regional Health System; (3) New Management; (4) Leadership; (5) Partnership for Regional Health; (6) Competency of Regional officer; (7) Field Learning.

Conclusions:
It could be concluded that the Training Program to Develop Competency of Regional Operating Officer in the Virtual Service Provider Office was developed with considerable applicability to other Service Provider Offices.

Keywords: Training Program; Regional Operating Officer; Virtual Office; Service Provider Office.
SURVEILLANCE FOR MIDDLE EAST RESPIRATORY SYNDROME AND INFLUENZA IN RETURNED TRAVELERS

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Background
Since the emergence of the Middle East respiratory syndrome (MERS)-Coronavirus (CoV) in 2012, animal reservoirs of the novel virus have remained and human infections have continued to be reported. Human-to-human transmission has been demonstrated and large hospital outbreaks have occurred. Hence, the timely identification and isolation of MERS cases in hospitals is crucial, to prevent nosocomial transmission. Since Sep 2012, an active surveillance program for travelers returning from MERS-affected countries has been implemented in our hospital, a 1600-bed adult tertiary-care hospital in Singapore.

Objectives
We describe the clinical epidemiology of returned travelers admitted to our hospital for clinical management and laboratory investigations of suspected MERS-CoV infection, and compare the clinical findings and diagnoses of Singapore residents with non-residents.

Methods
We conducted an analytic cross-sectional study of suspected MERS patients admitted to our hospital from 25 Sep 2012 through 10 Feb 2016. We compared differences in demographics, travel history, clinical presentation, and diagnosis between residents and non-residents, using t-test for continuous variables and chi-square test for categorical variables. We then constructed multivariable logistic regression models to assess for independent factors associated with influenza infection in the returned travelers.

Results
MERS Co-V was not detected in the 262 patients investigated. Half were male and almost two-thirds (65.3%) were Singapore residents. Residents (mean 54.1 [SD 14.9] years) and non-residents (mean 56.8 [SD 16.1]) were similar in age (P = 0.171). Half of the admissions had occurred during the months of January (17.6%), June (14.5%), October (12.6%), and December (11.1%). Year 2015 had the highest number (102, 38.9%) of admissions. The majority (60.7%) of patients had returned from the Kingdom of Saudi Arabia, with significantly more Singapore residents (69.6%) than non-residents (44.0%) returning from the Kingdom (P < 0.001). Cough (91.6%) and fever (90.5%) were the most common presenting symptoms. Only one-fifth (22.1%) of patients had presented with shortness of breath. Influenza virus was detected in 30.2% of patients, with a significantly higher proportion of non-residents (45.1%) than residents (22.2%) being infected with influenza (P < 0.001). After adjusting for age, travel destination, and admission month, non-residents were thrice as likely as residents to have an influenza infection (OR 2.96, 95% CI 1.61-5.44, P < 0.001).

Conclusion
Whilst MERS Co-V has not been detected in returned travelers from MERS-affected countries, influenza infection is common among them, especially in non-residents of Singapore. Influenza vaccination and good personal hygiene, which is recommended to Hajj and Umrah pilgrims departing from Singapore, should be actively promoted to all travelers to MERS-affected countries.

Keywords: Middle East respiratory syndrome (MERS); Influenza; Surveillance; Returned travelers.
MONITORING THE UPS-AND-DOWNS OF ADULT DENGUE: A HOSPITAL-BASED DENGUE SURVEILLANCE PROGRAM

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Background
Dengue fever is a major public health concern for the Asia Pacific region, causing significant burden on health systems. Dengue fever is endemic in Singapore, with epidemics occurring every two to six years. A hospital-based dengue surveillance system has been implemented to supplement the national surveillance system, for better resource management. Patients suspected of dengue fever infection are screened for the presence of dengue NS1 antigen, and dengue immunoglobulin M (IgM) and IgG antibodies using a commercial dengue duo rapid test.

Objectives
We describe the changing epidemiology of dengue fever in an adult tertiary-care hospital, from 1 Jan 2010 to 13 Feb 2016, and compare the disease burden during outbreak and non-outbreak periods to assess for surge capacity required.

Methods
We conducted an analytic cross-sectional study of suspected and laboratory-confirmed dengue fever patients who attended at our hospital from 3 Jan 2010 (epidemiological week 1, 2010) through 20 Feb 2016 (epi-week 7, 2016). We compared the number of laboratory-confirmed dengue infections over the years and between outbreak and non-outbreak weeks, and estimated the odds ratios and 95% confidence intervals for the associations.

Results
A total of 42155 suspected dengue fever patients were investigated for dengue virus infection, of whom 11417 laboratory-confirmed infections were determined. The mean weekly dengue infection rate was 28.4% (SD 11.6%). We defined an outbreak week as a week with infection rate exceeding 51.6% (mean+2SD). Outbreaks had occurred in the middle of the year in 2011, in the second half of 2012, and at the beginning of 2013. The peak weekly dengue infection rate was the highest in 2013 (67.0%, epi-week 20), followed by 2012 (55.0%, epi-week 43) and 2011 (54.6%, epi-week 31). After adjusting for the time of the year, dengue infections have increased by an average of 37 per week in years 2013-2016 compared to earlier years 2010-2012 (OR 36.74, 95%CI 32.17-41.31, P<0.001). There were also an average of 28 more infections during outbreak weeks compared to non-outbreak weeks (OR 28.36, 95%CI 14.90-41.81, P<0.001).

Conclusion
Dengue fever remains a public health threat in Singapore, and the number of infections managed at our hospital has increased significantly in the past three years. The excess number of 28 infections per week during outbreaks is not trivial. Preparations would have to be made to ensure the availability of additional resources to cope with the surge in dengue infections during outbreak periods.

Keywords: Dengue fever; Hospital-based surveillance; Infection rate; Outbreaks.
MOLECULAR EPIDEMIOLOGY OF METHICILLIN-RESISTANT STAPHYLOCOCCUS AUREUS: DIFFERENCES BETWEEN HEALTHCARE FACILITIES AND ANATOMIC SITES

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Background:
Methicillin-resistant Staphylococcus aureus (MRSA) is a growing clinical problem worldwide. Whilst the epidemiology of MRSA in acute hospitals has been widely studied, the epidemiology of MRSA in intermediate- and long-term care facilities (ILTCs) is less well understood.

Objectives:
Our study aims to compare the molecular epidemiology and distribution of MRSA in the nares, axilla, and groin, among patients of an acute hospital and its affiliated ILTCs, and to assess for differences in factors associated with specific MRSA strains.

Methods:
We conducted a cross-sectional MRSA surveillance study from 2nd June to 9th July 2014, at a 1600-bed acute tertiary-care hospital in Singapore and in its closely-affiliated ILTCs. Randomly selected patients with >48 hours stay in the acute hospital and all patients from ILTCs were included. Separate nasal, axillary, and groin swabs were cultured for MRSA using selective chromogenic agar media. MRSA isolates were then subjected to whole-genome sequencing. Patients’ demographic and clinical data were obtained from medical records, and associations with MRSA strains made. We estimated the odds ratios (OR) and corresponding 95% confidence intervals (CI) for each association. To control for confounding, multivariable logistic regression models were constructed.

Results:
A total of 1700 patients was screened for MRSA. MRSA prevalence in intermediate-care facilities and long-term care facilities were thrice (OR 3.18, 95% CI 2.37-4.28, P<0.001) and twice (OR 1.91, 95% CI 1.38-2.65, P<0.001) that in the acute hospital respectively. Of the MRSA colonizers, 53.4% had nasal carriage. The predominant clonal lineages were clonal complexes (CCs) 22 and 45. Females were more likely than males to be colonized with CC22 (OR 1.72, 95% CI 1.06-2.80, P= 0.027). CC22 was more dominant in the acute hospital (52.2%) and intermediate-care facilities (52.8%) than in long-term care (30.0%) facilities (P= 0.003). On the anatomic distribution of MRSA, CC22 (contributing to 56.4% of nasal colonization) appears to have a greater predilection for nasal colonization than CC45 (30.1%). Nasal colonization with MRSA was twice as likely as cutaneous colonization to be attributed to the CC22 strain (OR 2.27, 95% CI 1.42-3.64, P=0.001). In contrast, cutaneous colonization of the axilla and/or groin was almost twice as likely to be associated with CC45 (OR 1.86, 95% CI 1.15-3.00, P=0.012). After adjusting for age, gender, comorbidities, and prior hospitalization in the past 12 months, the CC22 strain was positively associated with nasal colonization (OR 2.07, 95% CI 1.26-3.41, P=0.004) and with the acute hospital (OR 2.54, 95% CI 1.30-4.94, P=0.006) and intermediate-care facilities (OR 2.34, 95% CI 1.12-4.87, P= 0.024). In comparison, the CC45 strain was more likely to be associated with cutaneous colonization (OR 1.99, 95% CI 1.19-3.30, P=0.008) and intermediate-care facilities (OR 2.31, 95% CI 1.09-4.89, P=0.028) than long-term care facilities, after accounting for age, gender, comorbidities, and prior hospitalization.

Conclusion:
MRSA prevalence in ILTCs was significantly higher than in the acute hospital. The molecular epidemiology of MRSA differed across healthcare facilities, with CC22 being more dominant in the acute...
hospital and intermediate-care facilities than long-term care facilities. CC22 was positively associated with nasal colonization whilst CC45 with cutaneous colonization.

**Keywords:** Methicillin-resistant Staphylococcus aureus (MRSA); Molecular epidemiology; Acute hospital; Intermediate- and Long-te.
DIFFERENCES IN THE MOLECULAR EPIDEMIOLOGY OF VANCOMYCIN-RESISTANT ENTEROCOCCUS AND RISK FACTORS FOR COLONIZATION BETWEEN HEALTHCARE FACILITIES

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Background
Vancomycin-resistant enterococcus (VRE) infections have increasingly been reported in acute hospitals in Singapore. However, little is known about the prevalence of VRE in intermediate- and long-term care facilities (ILTCs) and the comparative epidemiology with acute hospitals.

Objectives
We compared the molecular epidemiology of VRE among patients of an acute hospital and its affiliated ILTCs, and assessed for differences in factors associated with VRE colonization.

Methods
We conducted a cross-sectional VRE surveillance study from 2nd June to 9th July 2014, at a 1600-bed acute tertiary-care hospital in Singapore and in its closely-affiliated ILTCs. Randomly selected patients with >48 hours stay in the acute hospital and all patients from ILTCs were included. Rectal swabs or stool samples were collected and cultured for VRE using selective chromogenic agar media. VRE isolates were then genotyped via PCR. Patients' demographic and clinical data were obtained from medical records, and associations with VRE colonization made. We estimated the odds ratio (OR) and corresponding 95% confidence intervals (CI) for each association. To control for confounding, multivariable logistic regression models were constructed.

Results
A total of 1675 patients was screened for VRE. VRE prevalence was 7.8 times higher in the acute hospital (OR 8.83, 95% CI 5.45-14.30, P<0.001) than in ILTCs. Of the VRE colonizers, 95.3% had van A genotype. Van B genotype was detected only in patients from the acute hospital, but not in patients from ILTCs. All of the VRE colonizers from ILTCs had a prior hospitalization history in the past 12 months, but none was known to be VRE colonized prior to the screening. In ILTCs, having a length of stay (LOS) of >14 days in the ILTC was negatively associated with VRE colonization (OR 0.27, 95% CI 0.11-0.69, P=0.007), after adjusting for age, gender, and the use of percutaneous endoscopic gastrostomy (PEG) tube. In contrast, in the acute hospital, LOS>14 days (OR 1.96, 95% CI 1.40-2.74, P<0.001), prior hospitalization (OR 1.67, 95% CI 1.20-2.33, P=0.002), previous known VRE status (OR 3.09, 95% CI 1.40-6.83, P=0.005), and the use of PEG tube (OR 1.72, 95% CI 1.13-2.63, P=0.011) were positively associated with VRE colonization, after adjusting for age and gender.

Conclusion
VRE prevalence is significantly higher in the acute hospital than in the ILTCs. The molecular epidemiology of VRE and the risk factors for VRE differed across healthcare facilities. Van B was detected in patients from the acute hospital but not in the ILTCs. Length of stay >14 days was positively associated with VRE colonization in the acute hospital, but negatively associated with VRE colonization in ILTCs.

Keywords: Vancomycin-resistant Enterococcus (VRE); Molecular epidemiology; Risk factors; Healthcare facilities.
SEXUAL PARTNER SEEKING ROUTES AND PREFERENCES AMONG MEN WHO HAVE SEX WITH MEN IN BANGKOK, THAILAND

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Background
Men who have sex with men (MSM) in Thailand have been under-studied due to the social stigmatization and the hidden nature of these populations. The implication of social network on HIV risk behaviors deserves attention as it is increasing utilizing for sexual partnership seeking among MSM. In addition, increasing number of MSM sex workers from the ASEAN with insufficient knowledge about HIV prevention and treatment might further worsen the HIV spreading.

Objectives
The objective of this study was to examine the sexual partner seeking routes and sexual partner preferences among MSM in Bangkok where the HIV problem is among the most severe in Thailand.

Methods
A cross-sectional survey was conducted among purposively selected 425 MSM during 1 month period from April to May 2015. Data were collected by an 11-item questionnaires and include personal demographics, sexual partner seeking routes (online social network, specific places for MSM and public places), and sexual partner preference (Thai versus foreign).

Results
A total of 425 (96.6%) MSMs participated. The most common routes MSMs utilized in seeking sexual partners were online social network (90.2%), places of amusement (81.2%), specific places for MSM (32.7%), and public places (28.5%) respectively. Residing in urban area, working as student, having undergraduate educational level, and all income were significantly associated with higher usage of online social media in sexual partner seeking. Concerning sexual partner preference, most MSMs preferred Thai sexual partner (60%), followed by Singaporean (24.9%), Malaysian (4.9%), and Indonesian (4.0%) respectively. The most common reasons for sexual partner preference were physical appearance (43.1%), communicability (36.1%), and affordable service charge (13.6%) respectively.

Conclusion
These findings underscore the importance of sexual partner seeking routes and sexual partner preferences that may relate to HIV risk among MSM. Further studies should focus on dynamics within the MSM's social network as well as how to reach and utilize it as the intervention channel for sustainably reducing the HIV risk among this population.

Keywords: Men who have sex with men; Sexual partner seeking routes; Sexual partner preferences.
ALCOHOL USE DISORDER, COMORBIDITY AND TUBERCULOSIS MEDICATION NON-ADHERENCE AMONG TB PATIENTS IN SI SA KET PROVINCE NORTHEASTERN THAILAND

PH0020

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Introduction
The aim of the study was assess alcohol use, comorbidity and TB medication adherence in TB patients in Thailand.

Method
A sample of 223 TB patients in two district hospitals in Si sa ket province in Thailand were screened for alcohol use, using the Alcohol Use Disorder Identification Test (AUDIT-C). TB medication adherence was assessed with a 7-day recall self-report measure.

Results
From 223 TB patients screened 70 TB patients (31.4%) were found to have an alcohol use disorder (scoring 3 or more on the AUDIT-C). From the 70 TB patients with an alcohol use disorder, 4.3% were found to be non-adherent to their TB medication. Tobacco use comorbidity with alcohol use disorder was 17.1%, being HIV positive (5.7%) and based on the PHQ-9, 58.6% had mild depression and 25.7% had moderate, moderately severe or severe depression.

Conclusion
The study found a high prevalence of alcohol use disorders and comorbidity in terms of tobacco use and depression among TB patients in Northeastern Thailand. Health care programmes need to address alcohol, tobacco and depressive orders in TB patients.

Keywords: Alcohol use disorder, comorbidity, tuberculosis medication non-adherence.
IMPACT OF SMOKE-FREE LEGISLATION ON CHILDREN’S DOMESTIC EXPOSURE TO ENVIRONMENTAL TOBACCO SMOKE

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Background:
On 11 January 2009, Taiwan broadened smoke-free legislation and required it be smoke-free in mass transportation systems, indoor public areas and indoor workplaces with three or more people.

Objectives
We investigated the impact of this legislation on children’s domestic exposure to environmental tobacco smoke (ETS). We also examined how ETS was associated with household socioeconomic status and composition before and after the 2009 legislation.

Methods
Study consisted of 8,177 children ages 3 to 12 years from National Health Interview Surveys (cross-sectional, nationally representative household survey) in 2005, 2009 and 2013. Logistic regression models were used to analyse the association between the 2009 smoke-free legislation and children’s domestic ETS exposure. Regression analyses by each survey year were performed to investigate how factors in association with ETS exposure changed after this legislation.

Results
Rate of children’s domestic ETS exposure decreased from 51% in 2005, to 32% in 2009, and 28% in 2013. Compared to 2005, children in 2009 and 2013 had a lower likelihood of domestic ETS exposure, with respective multivariable-adjusted odds ratios of 0.45 (95% CI: 0.40–0.51) and 0.41 (95% CI: 0.36–0.46). Low household income, low parental education level, and living with adults besides parents or grandparents were individually associated with higher domestic ETS exposure before and after smoke-free legislation.

Discussion
Children’s domestic exposure to ETS in Taiwan declined substantially after smoke-free legislation and remained low. Inequality in ETS exposure by household socioeconomic status and composition warrants future research and the development of targeted interventions.

Keywords: Environmental tobacco smoke; Secondhand smoke; Public policy; Socioeconomic status; Household composition.
KNOWLEDGE AND PREVENTION BEHAVIOR OF HAND FOOT AND MOUTH DISEASE AMONG KINDERGARTEN TEACHERS IN THE PRIMARY SCHOOLS IN UBONRATCHATHANI PROVINCE, THAILAND

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Background
Hand Foot and Mouth Disease (HFMD) is a seriously infectious disease that usually occurs in preschool children and school-age children in child care center and primary school.

Objectives
The objectives of this cross-sectional study were to assess the level of knowledge and prevention behavior and to determine factors associated with prevention behavior of HFMD among kindergarten teachers.

Method
Data were collected from 146 subjects in 7 primary schools in Naimuang sub-district, Muang district, Ubonratchathani province. Analysis factors associated with prevention behavior by using Chi square.

Result
The results found that 69.2 percent of subjects were knowledgeable in HFMD in good level and prevention behavior was fair level at 93.2 percent. The statistically significant associated between knowledge and prevention behavior (P= 0.002). The most prevention behavior for HFMD was to encourage students to clean their hands regularly before and after meal and using bathroom 90.4 percent.

Conclusion
Nevertheless, some prevention behaviors were still insufficiently preformed such as using glass together of child and separation of sick child from friends. And there was still lack of appropriate training for teachers about child care. Therefore, schools should promote proper training about HFMD prevention behavior for teacher regularly and defensive measure strictly applied in schools.

Keywords: Hand Foot and Mouth Disease (HFMD); Preschool and school-age children; Hygiene; teachers
SPATIAL PATTERNS AND TRENDS OF MATERNAL MORTALITY IN NEPAL

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Introduction
Maternal mortality remains an important global public health problem and not an exceptional in Nepal.

Objective
The aim of the study was to investigate the spatial and temporal variation of maternal mortality in Nepal in order to identify trends and possible high-risk areas.

Methodology
The study was based on a retrospective analysis of maternal deaths from the annual reports (2001-2013) of Department of Health Services in Nepal which has institutional maternal health service uptake and recorded maternal health information. The maternal mortality ratio was calculated from records, and model by the negative binomial model.

Results
Apart from a relatively small number of outliers, these models provided a good fit, as indicated by residual plots. The overall mean maternal mortality ratio was 144 maternal deaths per 1,000,00 live births. Maternal mortality showed a sharp decrease for the year 2001 to 2007, followed by a more moderate upward trend until 2009, when the rate of decrease and again increase in 2013 followed by drop in 2014. There were pronounced spatial variations with higher rates occurring in the mountain region, with relatively moderate and relatively low rates in the Hill and Terai regions, respectively. Maternal mortality was also higher in rural areas with compared to urban cities.

Conclusion
Maternal mortality showed a steady decreasing trend, but the number of cases was still very high. Higher deaths were observed in the Mountain Region and rural areas. These findings highlight the need for the control measures to remain on a sustained and long-term basis for the high burden areas of Nepal.

Keywords: Maternal Mortality; Spatial; Temporal; Nepal.
THE REALITY DIET AND OTHER REALAED-FACTORS IMPACT THE TREATMENT RESULT OF TYPE II OUTPATIENT DIABETES IN THAI NGUYEN

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Background:
The combination between reality diet, practicing exercise and other factors play an important role and significantly impact to the treatment of type II diabetic patients.

Objective:
to assess the reality diet of type II diabetes and to determine the effect of some risks to the treatment consequences among those patients.

Methods:
A cross-sectional study researched on the 141 outpatient patients of surgery department of Thai Nguyen general central hospital. The reality diet was collected by 24 hour records. The HbA1C and the analyzed glucose blood level of patients when being hungry was from medical record.

Results:
The average glucose level was 7.2 ± 2.8 mmol/l (maximum was 23 mmol/l), HbA1C was 7.5 ± 2.5. In term of dietary, rice was the food group which is mainly used in dietary with 207.6 ± 110.8 g/person/day. Besides, the research subjects consume 71.8 g other cereals; 24.6 g tubers and 5.7g sugars per day. The proportion of energy provided by protein, lipid, glucide was unbalance, especially, energy from glucide supplied much more higher than recommendation diet adequate of diabetic patients. In groups of age under 60 of both men and women, the part of energy supplied by glucide was significant high with 73.8% and 76.1%. Furthermore, there was 74.9 percent patient who usually do exercise every day with about 56 ± 30 minutes per day.

Conclusion:
The reality diet of outpatient type II diabetes has not met the well-balance with recommendation for diabetics. Although those patients spent nearly 60 minutes for doing exercise, the glucose blood and HbA1C of diabetic patients were higher than well-control level.

Keywords: Dietary practice; type II diabetic patients; Thai Nguyen general central hospital.
COMPARATIVE TRENDS IN THE INCIDENCE OF TUBERCULOSIS IN COUNTRIES THE ASEAN REGION, 1990 TO 2014

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Background
Tuberculosis (TB) is a significant global public health problem. Incidence of TB has declined for most countries worldwide since 1990, but comparative analysis has mainly focused on examination of TB in the context of the World Health Organization regions. The expected free flow of persons in the ASEAN Economic Community necessitate appraisal of trends of TB incidence in the region to allow for institution of appropriate public health response in both sending and receiving countries.

Objectives
To compare trends in reported incidence of TB between countries in the ASEAN region (Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand, Vietnam) across the period 1990 to 2014.

Methods
Data on estimated incidence for all forms of TB were obtained from the publicly accessible World Bank Data site (http://data.worldbank.org/indicator/SH.TBS.INCD/countries). Crude comparisons for each country was performed from calculated relative changes in TB incidence annually, for five year-intervals, and between 1990 and 2014.

Results
The estimated incidence of TB has declined by an average of 1.09% per year in countries in the ASEAN region between 1990 and 2014. Cambodia (–1.66%), Philippines (–1.76%), Vietnam (–2.40%), and Lao PDR (–3.91%) all had mean annual changes lower than the regional average. An increasing trend in TB incidence was observed for Malaysia and Singapore beginning in 2008 and persisting until 2014 (+2.63% vs. +6.19%, and +2.94% vs. +8.89%, respectively), which became more apparent when analysis was limited to comparison of the incidence reported at the beginning and ending five-year periods (i.e., 1990 to 1994, 1995 to 1999, etc). Country ranking in terms of computed change in TB incidence between 1990 and 1994 was: Lao PDR (–14.63%), Vietnam (–10.36%), Thailand (–8.12%), Philippines (–7.03%), Cambodia (–1.54%), Malaysia (–1.30%), Indonesia (–0.88%), Myanmar (+1.77%), Singapore (+3.23%), and Brunei Darussalam (4.55%); while for 2010 and 2014 was Lao PDR (–14.48%), Cambodia (–10.55%), Vietnam (–9.68%), Indonesia (–6.49%), Thailand (–5.52%), Myanmar (–3.91%), Indonesia (–3.86%), Brunei Darussalam (no change), Malaysia (+22.62%), and Singapore (+3.23%). Overall, TB incidence has declined from 1990 to 2014 in all ASEAN countries with the exception of Malaysia (+33.77%), with four countries (Lao PDR –61.59%; Vietnam –44.22%; Philippines –34.69%; Cambodia –33.22%) reducing their TB incidence by more than a third over a 25-year period.

Conclusion
Crude analysis of the trends in the estimated incidence of TB showed that it has generally declined in most countries in the ASEAN region. However, an up-trend in the last five years observed in two of the more affluent states in the area, Malaysia and Singapore, warrant further investigation as to its cause and potential consequences. This becomes more imperative not only in view of the global movement to end TB by the year 2030, but also as a response to the broader issues of free movement of people in an integrated ASEAN.

Keywords: Tuberculosis; Epidemiology; Incidence; Brunei; Cambodia; Indonesia; Laos; Malaysia; Philippines; Singapore; Thailand; Vietnam.
INHIBITORY ACTIVITY AGAINST PATHOGENIC BACTERIA OF STREPTOMYCETES ISOLATED FROM THAI NATURAL RESOURCES

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Bacterial infections still remain a major public health problem worldwide, particularly caused by multidrug resistant bacteria. Most bacterial diseases can be treated with antimicrobial agents. However, these drugs have been used so widely and so long that the infectious strains have rapidly adapted to resist the drugs, making the drugs less effective. Each year, million people become infected with the antibiotic-resistant bacteria and die as a result of these infections. Hence, discovery of a new drug to combat these infections is urgently needed. Streptomycetes is major group of soil bacteria ubiquitous in natural resources. These bacteria have shown to be a remarkably rich source of natural products, accounting for the production of two-thirds of available antibiotics. Thailand has been a land rich in natural bioresources, including soil microorganisms. Therefore, the objective of this work is to search streptomycetes isolated from Thai natural resources for antibacterial activity. We have isolated fifty Streptomyces strains from soils collected from various geographic natural resources of Thailand. The 50 different isolates were determined for antimicrobial activity against various standard strains of pathogenic bacteria. The infectious bacteria include Enterococcus fcieccilis, Staphylococcus aureus, Klebsiella pneumoniae, Acinetobacter baumannii, Pseudomonas aeruginosa and Enterobacter aerogenes using agar plug methods. The antimicrobial-producing Streptomyces isolates exhibited clear zone of inhibition around their agar plugs containing the colony. Among the fifty Streptomyces, 10 isolates (20 %) (strains SMC2, SMC30, SMC31, SMC47, SMC53, SMC56, SMC95, SMC146, SMC235 and SMC270) showed antimicrobial activities. Five strains (SMC30, SMC31, SMC56, SMC95, SMC270) showed growth inhibition against E.faeacalis. Seven strains (SMC2, SMC30, SMC31, SMC53, SMC56, SMC235, SMC270) against S. aureus. Two strains (SMC31, SMC47) against A. pneumoniae. A strain of SMC47 against A. baumannii and A. aerogenes, and a strain of SMC 146 against P. aeruginosa. The potent antibacterial agents of Streptomyces candidates will be subject to extraction, isolation and purification, and useful as chemotherapeutics in the future.

Keywords: Multidrug resistance bacteria; Extraction; Isolation; Purification; Chemotherapeutics.
Background
Leptospirosis is a re-emerging disease caused by pathogenic Leptospira spp., which survives best in tropical climates, like in the Philippines, and has variety of animal reservoirs, including bats. Bats, the only group of mammals that are capable of true flight, are the most diverse and abundant mammalian species in the Philippines and second in the world. They are known vectors of various pathogenic microorganisms. Studies in countries with high endemicity of bats, i.e. Peru, Brazil and Australia, had revealed that bats are capable of carrying pathogenic Leptospira spp.

Objectives
Being the first in the Philippines, this study aims to explore the carrier status of bats for pathogenic leptospires in the biologically diverse University of the Philippines Los Baños (UPLB) campus environment using selective culture and flaB PCR.

Methods
Bat urine samples were collected from bats captured in the UPLB campus in July-August 2014 and January 2015. 48 bat urine samples were cultured using selective media and 35 samples were run through flaB PCR. The amplicons that produced the target fragment in flaB PCR was sequenced. DNA sequence obtained was compared with the GenBank database of the National Center for Biotechnology Information (NCBI) using the megaBLAST algorithm of the Basic Local Alignment Search Tool (BLAST).

Results
There were no positive cultures but one out of 35 bat urine sample yielded positive result for pathogenic leptospires in flaB PCR. Sequencing result showed highest nucleotide identity with Leptospira spp. flagellin B gene sequences stored in the GenBank database and confirmed that indeed pathogenic leptospiral DNA was found in bat urine.

Conclusion
Positive result in flaB PCR and confirmatory sequencing result show the possibility of detecting pathogenic Leptospira spp DNA in urine shed by bats in the Philippines. This result may be regarded as preliminary. It is highly encouraged to do further studies to understand the role of Philippines bats in pathogenic Leptospira spp. Transmiss.

Keywords: Leptospira spp.; Zoonosis, Bat; flaB PCR.
DECISION MAKING PATTERNS AND FACTORS EFFECTING TO EMERGENCY MEDICAL SERVICES IN 10TH HEALTH SERVICE AREA, THAILAND

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Background
Emergency illness is the leading cause of death in Thailand as well as many other countries. Thai government has established the National Institute for Emergency Medicine in 2008 to resolve this problem by cooperated with Ministry of Public Health service through 1669 free phone number at all times. The National Institute for Emergency Medicine funded the implementation of 7.2553 million baht in 2014 held a series of emergency medical coverage.

Objectives
This study the factors that affect and decided to form the emergency medical services in 10th Health service area.

Methods
This study was Quantitative Research comprised an interview questionnaire survey sample of 120 patients or relatives of patients in emergency crisis or resuscitation who came to the hospital by emergency medical system 58 persons and who came by themselves 62 persons who were living in three provinces in the North-East in 10th Health service area of Thailand. Percentage, mean and standard deviation were applied for data analysis. Comparative analysis of the differences between groups was conducted using t-test statistics, Stepwise Multiple Regression Analysis use to analytical and prediction correlated.

Results
The study found that the unstructured decision pattern (Group Decision) to use the emergency service in a manner never before operated, phone free service 1669 is unknown, distrust and do not see the importance in service. Factors that influence the selection of patients to emergency medical services in the area of health services to 10th significant level of 0.01 (p> 0.01) is the perception about 1669 free phone service, knowledge about pain and illness, living area and time of hurt - emergency patients. But factors Cultural, Family, relatives or gender, education and occupation has not resulted to the emergency medical services and can predict the service percentage 23.4 (R^2 = 0.234).

Conclusion
This study found unstructured decision pattern to use the emergency service. Factors that influence the selection of patients, emergency medical services in the area of health services to 10th depends on perception, knowledge about pain, living area and time of hurt - emergency patients. Thus, the Government should provide emergency medical services cover all areas and provide rapid service and build confidence and trust in the people running the emergency services when necessary.

Keywords: Decision making; Emergency medical services; Health service.
Objectives:
We examined the independent effect of neighborhood disadvantages on inequalities in oral health (traumatic dental injuries and level of oral hygiene) and access to oral health care to adolescents, 12-15 years of age living in the city of Udaipur, India and to assess various material, psychosocial and behavioral factors influencing this association.

Methods:
A cross-sectional study was conducted with a sample of 1386 adolescents living in 3 diverse residential areas of Udaipur (urban slums, resettlement colonies and middle class homes). Clinical examination was undertaken and an interviewer administered questionnaire was used to gather relevant clinical, behavioral and social data. Multivariable logistic regression models were used for analysis.

Results:
The odds of having dental trauma were 2.34 (95% CI 1.46-3.77) times higher for adolescents living in resettlement colonies and 2.47 (95% CI 1.54-3.96) times higher for adolescents from urban slums in comparison to adolescents from middle/upper class homes. Similarly adolescents from resettlement colonies had 1.87 (CI 95% 1.44-2.43) times and adolescents from urban slums had 3.05 (95% CI 2.32-4.03) times higher odds of having poorer oral hygiene. Material deprivation, social capital, social support and health behaviors had a negligible effect on association between areas of residence and various oral health outcomes. Almost 71% of adolescents from urban slums and 65% of adolescents from resettlement areas had no access to dental health care in comparison to 2334 adolescents from middle class homes.

Conclusion:
We found strong evidence that dental trauma, oral hygiene and access to dental health care were significantly associated with neighborhood disadvantage independent of individual socioeconomic position. Area of residence was a very strong predictor of oral health and access to oral health care and there is a need to design policies which aims at improving health by taking on broader structural determinants of health inequalities.

Keywords: Oral health; Socio-economic position; Adolescence; Udaipur.
FACTORS AFFECTING THE USAGE OF HEALTH INSURANCE OF RURAL PATIENTS AT PUBLIC HEALTH FACILITIES IN VIETNAM

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The Master Plan for Universal Coverage of the Government of Vietnam in 2012 aims to expand coverage of health insurance (HI) to at least 80 percent of the population by 2020. The final target is to achieve sustainable financial resource for developing an effective, quality, equity and sustainable healthcare system, meeting the rights and needs of health care for all insured population. In fact, Vietnam recently has made significant progress towards achieving universal coverage of HI. However, an emerging issue is that many insured people still pay out of pocket rather than use their HI coverage for medical services at public health facilities. This situation seems to contradict to the final goal of the Government’s Master Plan on HI.

The objective of this paper is to explain why some insured rural people pay out of pocket rather than use their HI coverage for medical services at public health facilities and to identify the major factors affecting this phenomenon. Using both quantitative and qualitative data from the Population Health Survey in 2008 and 2013 of nearly 4000 households and public health facilities in 12 communes from six provinces, the analysis firstly focuses on the patterns of HI usage among social groups. Out-of-pocket payments for medical treatment of the patients across HI status, type of illness, and type of health facility were also examined. Then logistic regression method was applied to identify the major factors affecting the usage of HI of rural insured patients who used medical services at public health facilities in the last 12 months prior to the survey.

The results show that HI was not used in about 10% of visits of insured people for treatments at public health facilities, especially at provincial or central hospitals (≈20%). HI helped rural members to reduce the amount of out-of-pocket payments, particularly for non-chronic illnesses. However, if other costs are taken into account, the total payments for acute illness of insured people are not much lower than not-insured people. Low quality of health services covered by HI is another reason explaining why some insured people did not use HI at district hospitals or higher levels. The multivariable analysis indicates that among insured people, those aged less than 50, with high income, major ethnicity (Kinh), with secondary or higher education, or having voluntary HI are less likely to used HI, especially at provincial hospitals.

The findings help to conclude that HI has been effective and useful for disadvantaged people, but also confirm the concerned issue of not using HI at public health services. Thus, in order to achieve the goals of Government’s Master Plan on HI in Vietnam, it is necessary to improve quality of health services for insured patients and reduce their out-of-pocket payments, especially unofficial costs.

Keywords: Health insurance; Vietnam; Medical service; Public health facility; Out-of-pocket payment.
The feasibility study on mobile phone applied in syndromic surveillance and early warning system in Yunnan, China __Yingjiang county as the example

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Background:
Project entitled "Establishment of symptomatic surveillance and early warning system in Yunnan Border" chose the medical institutions, schools and ports as the monitoring stations in border areas of Yunnan Province to have a pilot to initiate a new way to protect the public health security of Yunnan border areas. The main characteristics of syndromic surveillance are the sensitivity and timeliness. But there is no computer network or poor quality in many monitoring stations in Yunnan rural border areas, so it is impossible to use only computer network to report monitoring data.

Objectives:
To explore a new method of reporting monitoring information in China's rural Yunnan border areas. By APP installed on mobile phones or web page straight way, using the mobile phone to report target symptoms of the patient's information, to provide the possibility for no computer or poor network quality monitoring stations, to make the monitoring information reporting simply and quickly, and have a pretest for designed APP and data reporting procedure by using mobile phone.

Methods:
The methods of literature review and questionnaire survey have been applied. By the literature review method we found symptomatic surveillance system generally adopt the method of computer network to report information, and medical staff used mobile phone short message to report information in no computer net areas in Wenchuan earthquake in 2008. By self-designed questionnaire "mobile phone usage survey of medical institution", we investigated mobile phone network coverage situation, whether can connect to the internet, mobile phone memory size, etc. In-depth interview has been conduct to assess the procedure of using APP to report symptoms on the Smart phone.

Results:
Investigate 91 medical institutions, including 12 health clinics in towns and townships, 79 village clinics, staff of 154 people. The ratio of mobile phone signal coverage is 100% in Yunnan border area, 79.87% use smart phones, 83.12% of mobile phone can connect to the Internet, 77.92% mobile phone memory size is above 1 G. By installing APP and pretesting to report the symptoms with mobile phone, the reporting system was running smoothly and over 90% of health worker interviewed expressed that it was easy to learn and to report by APP installed on the Smart phone.

Conclusion:
Yunnan border areas are all covered by mobile phone signal, mobile internet ratio is very high. It is feasible that using mobile internet to report symptoms monitoring information in medical institutions in Yunnan border areas and APP designed to report symptoms was easy to be operated by local health workers.

Keywords: Mobile phone; Symptom surveillance; Information report.
FEMALE SEX WORKERS IN BA RIA–VUNG TAU, VIETNAM: SOCIO-DEMOGRAPHIC PROFILE AND HEALTH RISK BEHAVIOURS

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Background
Female sex workers (FSW) are a high-risk population group for the transmission and acquisition of sexually transmitted infections (STI) and HIV. This research investigated socio-demographic characteristics and risk behaviors among FSWs in Ba Ria – Vung Tau, Vietnam.

Methods:
Data were collected using a cross-sectional survey of 420 direct and indirect FSWs from 2 cities and 6 districts in Ba Ria – Vung Tau. FSWs were interviewed using a validated structured questionnaire (Integrated Biological and Behavioural Surveillance instrument). Data were entered (Epidata 3.1) and analyzed (SPSS 20.0) using univariate and multivariate analyses to investigate the associations.

Results:
Both FSWs who engaged clients directly (116) and indirectly, via brothels or other workplaces (254) participated in the study. About a quarter (25.4%) of the FSW sample were 24 years of age or under and 43.3% had minimal formal education. Almost half (48.1%) had been married or cohabited and 30.5% were living alone. The majority of the sample (63.1%) were unemployed before becoming FSWs. Two-fifths (40.2%) earned money solely by sex work. Over three quarters (76.2%) had a high HIV/AIDS-related knowledge level and over half (51.4%) felt themselves at risk of HIV infection. Regarding risky sexual behaviors, 52.6% had had their first sexual intercourse before the age of 18 years. In terms of workload, 42.9% had provided sexual services to over 15 paying clients in the month prior to interview. Most (81.4%) practiced oral sex and a substantial proportion (17.6%) had had anal sex during this period. Most FSWs drank alcohol at least once a week. Only half of the FSW sample had ever heard of, or known about injecting drug usage, although nearly a quarter of them had used drugs. FSWs who engaged clients directly were significantly more likely to have sexual intercourse with clients who injected drugs than those who made contact through their workplace. Results of multivariate analysis showed that FSWs who have a low income, longer working duration as FSWs, and had worked as FSWs in other places were more likely to practice anal sex.

Conclusions:
This study provides important evidence related to the socio-demographic characteristics and risk behaviours of direct and indirect FSWs in Ba Ria – Vung Tau province and has implications for future HIV/AIDS intervention prevention programs. Comprehensive sexual health promotion programs should be targeted at the direct FSW group and at the younger school-age youth group. HIV/AIDS intervention programs should also focus on high-risk behaviors such as alcohol and drug use among FSWs as well as stressing safe anal sex.

Keywords: Female sex workers (FSW); STI, HIV/AIDS; Socio-demographic factors.
Survival Factors in Patients With End-stage Renal Disease in Mazandaran Province, Iran

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Introduction.
Survival analysis for patients with end-stage renal disease and factors influencing their survival is crucial due to the increase in the number of these patients along with their high mortality rate. This study aimed to analyse the survival rate of patients in north of Iran undergoing hemodialysis and to assess factors influencing their survival.

Materials and Methods.
A historical cohort study was conducted on 500 patients on maintenance hemodialysis in 3 hospitals of 2 cities (Sari and Babol) in Mazandaran province during a 6-year period from 2007 to 2013. The Cox regression analysis was used to assess the impact of sex, age, education, smoking habit, primary cause of kidney failure, living with family, cardiovascular diseases, weight, age at diagnosis, and age at initiating hemodialysis on survival of the patients.

Results.
The median survival time for the 500 hemodialysis patients was 108 months. Death occurred in 174 patients (34.8%). History of smoking, age, being unemployed, being illiterate, and renal cyst, congenital diseases, and unspecified diseases as the cause of kidney failure were the associated factors with survival of the patients. The 1-, 2-, 3-, 5-, 10-, and 12-year survival for these patients was estimated to be 84%, 77%, 71%, 58%, 43%, and 33%, respectively.

Conclusions.
This study showed a high level of mortality and poor survival prognosis for patient undergoing maintenance hemodialysis. History of smoking, age, being unemployed, being illiterate, and renal cyst, congenital diseases, and unspecified conditions as the cause of kidney failure were the associated factors with survival of these patients.
FIRST CONTACT HEALTH FACILITY TO REACH TREATMENT AMONG NEW PULMONARY TB PATIENTS IN MANDALAY DISTRICT, MYANMAR

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Introduction
Tuberculosis is a major public health problem and endangers the lives of people worldwide alongside the human immunodeficiency virus nowadays. Myanmar is one of the 22 TB high burden countries worldwide. In Myanmar, approximate 73% of patients with TB symptoms seek care in private health sector before presenting to public health sector. This study aims to identify the first contact health facility and its association with characteristics of patients and factors till reaching to medication of TB.

Method
A cross-sectional study was conducted in 13 TB OPD public health facility sites in Mandalay District, Myanmar. A structured questionnaire was administered to 233 randomly selected adult new pulmonary TB cases. Patients who were enrolled for TB treatment during December 2015 to May 2016 were interviewed by trained research assistants. Uni-variate analysis was used for descriptive statistics followed by chi-square test to identify association between characteristics of patients, factors till reaching to medication of TB and first contact health facility.

Results
55.4% of patients seek care for TB symptoms at private health sector before presenting to public health sector in this study. People residing far away from health center which could make them TB diagnosis consulted more in private sector (p = <0.001). Urban dwellers had more consultation in private practitioners than rural residents (p =0.001). High income group did more consultation in private health sector (p = 0.026) and they consumed more medical and transport cost to reach TB treatment compared to those who consulted in public health sector (p = <0.001). People who seek health care initially in private sector had to visit multiple health facility (p = <0.001) and more number of visit (p = <0.001) before reaching to TB treatment. In addition, level of TB related knowledge was lower in patients who did initial consultation in private health sector (p = 0.038).

Conclusion
Even though public health centers could provide prompt diagnosis and treatment of TB with free of charge services, patients with TB related symptoms still having initial contact to private health care providers. Coverage and efficiency of private-public partnership is still challenging in this area.

Keywords: First contact health facility; new pulmonary TB patients; Mandalay District; Myanmar.
Mushar is one of the indigenous group, categorized as very poor as they are mostly landless, poor and the health status of this ethnic group being below the normality. The aim of this study is to estimate the prevalence of the acute malnutrition, severe acute malnutrition and assess the Vitamin A and deworming programme coverage. A descriptive cross sectional study was conducted from September to February 2011 by using simple random sampling among the four VDC of Sunsari districts where predominant residence of Mushar was found. 406 participants aged less than five years of age and lived for at least six months were included in the study. Anthropometric measurements and data were collected by household visits as stipulated by world health organization. Most of the children under the study were females (55%). The nutritional status (wasting, stunting and underweight) were expressed in Z scores. Of all the children aged 6 to 59 months, 26% of them were malnourished (W/H < 2 Z score or edema) and 13.27% had global acute malnutrition (W/H < 2 Z score or oedema). 10.04% of the children had severe malnutrition (underweight < 3 Z score or oedema). A coverage of 100% was reported for Vitamin A programme whereas deworming programme coverage was found to be 79%. It was found that 13.2% had severe acute malnutrition and 26% of them acute malnutrition. Programme coverage among the indigenous population was calculated to be 100% and 79% for Vitamin A and deworming programme respectively.

**Keywords:** Mushahar; Sunsari, Vitamin A; Deworming programme
Study of Perception regarding Swine Flu among School Teacher of Eastern Terai region of Nepal

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Background: Swine flu is a respiratory disease caused by viruses that infect the respiratory tract. In a study conducted in India it was found that most school teachers interviewed were well aware of H1N1 basics, 40% didn’t know danger signs/ complications. Knowledge on prevention demanded attention. 45% believed that H1N1 isn’t a big problem. Currently swine flu is spreading rapidly in India with a regular threat of it being spread to Nepal, owing to the open borders. Objectives: To assess the knowledge regarding cause and mode of transmission of Swine Flu, to find out attitude towards the swine Flu. Methods: A descriptive cross-sectional study was done in Inaruwa municipality. Total of 260 school teachers sample were taken from school situated in Inaruwa municipality. Knowledge, attitude and practice on swine flu were evaluated with the help of a predesigned questionnaire. Descriptive analysis was done by using SPSS 11.5 software to obtain frequencies and percentages. Results: Out of 260 interviewed school teachers, 28% belongs to 30-39 years group, the mean age was 36.33 years, by ethnicity Brahman chhetri were 38.1% followed by madhesi. All the respondents had heard about swine flu. Radio /TV were the main Source of information. 90% expressed that sneezing was the most common route of transmission. Regarding the prevention of swine flu, about 98% suggest that, cover mouth and nose while sneezing, regarding their practices during outbreaks, 85% expressed that they avoid going to crowded place. Conclusion: Almost all had heard about swine flu, Most common methods of spreading was sneezing in front of people and uses of mask were the common prevention from swine flu.

Keywords: Swine Flu; Radio; TV; Sneezing
Knowledge and Prevention Behavior of Hand Foot and Mouth Disease among Kindergarten Teachers in the Primary School in Ubonratchathani Province, Thailand.

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Hand Foot and Mouth Disease (HFMD) is a seriously infectious disease that usually occurs in preschool children and school-age children in child care center and primary school. The objectives of this cross-sectional study were to assess the level of knowledge and prevention behavior and to determine factors associated with prevention behavior of HFMD among kindergarten teachers. Data were collected from 146 subjects in 7 primary schools in Naimuang sub-district, Muang district, Ubonratchathani province. Analysis factor associated with prevention behavior by using Chi square. The results found that 69.2 percent of subjects were knowledgeable in HFMD in good level and prevention behavior was fair level at 93.2 percent. The statistically significant associated between knowledge and prevention behavior (P=0.002). The most prevention behavior of HFMD was to encourage student to clean their hands regularly before and after meal and using bathroom 90.4 percent. Nevertheless, some prevention behavior were still insufficiently preformed such as using glass together of child and separation of sick child from friends. And there was still lack of appropriate training for teachers about child care. Therefore, schools should promote proper training about HFMD prevention behavior for teacher regularly and defensive measure strictly applied in schools.

Keywords: Hand Foot and Mouth Disease; Kindergarten Teachers; Knowledge; Prevention behavior
TIME SERIES ANALYSIS OF THE EFFECT OF CLIMATE, METEOROLOGY AND AIR POLLUTION ON LONDON AMBULANCE CALL-OUT RATES

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Background
Climate change could enhance adverse symptoms, particularly in cardiovascular and respiratory diseases and rising temperature notably increased ambulance transports by heat stroke. Moreover, there were association between ambulance response time and weather, traffic and place of incident. Furthermore, the 2009 UK Climate Projections (UKCP09) generates the meteorology projection for the UK over the 21st century that the mean daily maximum temperature is projected to increase everywhere between 2.2 – 9.5 °C by 2080s. Hence, it is beneficial to find out the relationship among climate, meteorology and air pollution factors that can affect ambulance call-out rates in order to set functional surveillance system and to provide more practical ambulance system and health service in hospital.

Objectives
This study is to investigate the relationship of climate, meteorology, and air pollution on ambulance call-out rates by the three data sources were chosen for analysis, namely: 1) National Health Service (NHS) in England for daily data of ambulance data, 2) The British Atmospheric Data Centre (BADC) for hourly meteorological data and 3) hourly pollutant concentrations from Automatic Urban and Rural Network (AURN) between 1 January 2010 to 31 December 2014.

Methods
R version 3.2.2 was used to examine the analysis, a time series analysis for identification seasonal and trend variations, correlation for analyzing relationships and linear regression for predictive modeling.

Results
The results have shown that there was statistically significant relationship between temperature and ambulance call-out rates: a respiratory/chest infection (p<0.001), general unwell (p<0.001) and dyspnoea (p<0.001) and also was significant with relative humidity. A significant regression equation between detrending respiratory/chest infection(Y) and monthly mean temperature (X) was found (F(1,57) = 173.6, p <0.001), with and R² of 0.752. A linear model is Y=1.615-0.052 (X).

Conclusion
Ambulance call-out rates, especially, respiratory/chest infection, general unwell and dyspnoea were highly associated with climate and meteorology.

Keywords: Ambulance call-out rate, Climate, Meteorology, Air pollution, Time series analysis
Female sex workers is the high risk groups are exposed to sexually transmitted infections given on this group used to doing his sexual activity with a partner who is not fixed, with a very high level of mobility in the group. Behavior and lifestyle in Female sex workers are customers not using a condom at the time of sexual intercourse with customers. Another interesting behavior for vaginal douching is examined. This research aims to conduct in-depth interviews on women sex workers and other informants about the negotisi use of condoms and vaginal douching in women sex workers. This type of research is descriptive qualitative in form of data retrieval. Research results inform that all Female sex workers agree that customers should use condoms before wearing them. Most of the women sex workers do negotisi use with persuasion, seduction concerned reasons even with their families. Vaginal douching is always performed by Women sex workers and almost always use a material that is not recommended. The women sex workers feel more clean by using materials such as soap or even toothpaste. This research concluded that there is a consistent follow-up on Female sex workers about condom use on customers. Vaginal douching on Female sex workers was done by using products sold in General.

Keywords: Negotasi use of condoms; Vaginal douching; Female sex workers
ELIMINATION OF MALARIA - BANGLADESH PERSPECTIVE

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Introduction:
The vision of WHO and the global malaria community is a world free of malaria. As part of this vision, WHO has set goal and targets for the Global Technical Strategy for Malaria 2016-2030. One of its goals is to eliminate malaria from countries in which malaria was transmitted in 2015. Target set for the goal to eliminate malaria from at least 10 countries within 2020, at least 20 countries within 2025 and at least 35 countries within 2030.

Malaria in the Region:
Despite some progress in achieving the MGD targets, malaria still is a health burden throughout the world and it remains endemic in all six WHO regions. Most of the cases occurred in the WHO African region (82%), followed by the WHO South-East Asia region (12%). About 1.4 billion peoples are at some risk for malaria resides in the South-East Asia region. The proportion of cases varies greatly within the region. Three countries - India (55%), Myanmar (21%) and Indonesia (21%) accounted for 97% of cases in 2013. Bangladesh along with Bhutan, North Korea, Nepal, Timor-Leste and Sri Lanka reported >75% decrease in the incidence of microscopically confirmed cases between 2000 and 2013. Sri Lanka is in the elimination phase and reported zero locally acquired cases in 2013. Bhutan and DPR Korea are in the pre-elimination phase; and Nepal has reported no deaths from malaria since 2012.

Bangladesh Situation:
Malaria is a public health problem in some parts of Bangladesh. Out of 64 districts in the country, malaria is endemic in 13 districts and 13.25 million people are at risk. The three Chittagong Hill Tract (CHT) districts and adjacent Cox's Bazar district reports most of the cases and deaths. Very few cases and deaths are reported from other low endemic 9 districts. Among them, four districts – Mymensingh, Netrakona, Sherpur and Kurigram have shown <5% malaria positivity rates (RDT and Microscopy) over last three years. NMCP has changed its strategy in the NSP-2015 to 2020 that shows paradigm shift from control to phased elimination by 2020. Accordingly, pre-elimination strategies have been adopted in these four districts with an aim to gradually expand to the other moderate endemic and high endemic areas.

Results and Discussion:
A steady progress was observed in reducing malaria morbidity and mortality since the inception of the Global Fund supported malaria control programme in partnership with GO and NGOs since 2007. But in 2014, there was a sudden rise in of both cases and deaths especially in the CHT districts and its adjacent areas. Similar upsurge was observed in neighbouring states of India and some other countries in the region. Although the causes of the upsurge is not certain but it is speculated that the change in rainfall pattern and temperature might have favoured the vector breeding. This situation has put us on the back foot in terms of our ambition towards elimination within such a short timeframe.

Recommendation:
Achievements in malaria control could be fragile. Reduction in malaria mortality and morbidity is achievable with regular interventions. But for sustaining elimination more intensive efforts and resources are necessary.

Keywords: Malaria; Bangladesh; Elimination
Environmental Temperature and Blood Pressure among Adults: A Systematic Review and Meta Analysis

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**Background:**
Seasonal variations in blood pressure (BP) that BP is higher in the winter and lower in the summer has been directly attributed to changes in environmental temperature. Although previous studies have assessed the effects of temperature on BP, the results have been inconsistent. This study aimed to quantitatively summarize the BP change with temperature and to further explore the factors which would modify the effects of temperature.

**Methods:**
We searched for relevant empirical studies published before October 2015 concerning temperature and BP among adults using the MEDLINE, PUBMED and Embase database as well as the China Biological Medicine database. A pooled coefficient of systolic blood pressure (SBP) and diastolic blood pressure (DBP) change with per 1 ºC reduction in environmental temperature was combined using a random-effects model.

**Results:**
A total of 11 studies were included in this analysis. Mean SBP and DBP were reported higher in the winter months than that in the summer months. Each 1 ºC lower mean outdoor temperature was associated with 0.26 mmHg higher SBP and 0.13 mmHg higher DBP. The effects among people with cardiovascular disease (CVD) were much stronger, especially for SBP (people with CVD: pooled $\beta=0.41$, 95%CI: 0.20-0.61; people without CVD: pooled $\beta=0.17$, 95%CI: 0.11-0.23). With three studies, we observed SBP rise by 0.38 mmHg per 1ºC decrease in indoor temperature.

**Conclusions:**
We observed BP rise among adults with decreased environmental temperature, and the people with CVD might be more susceptible to changes in environmental temperature. The results suggest that high-risk individuals need more intensive blood pressure lowering treatment and more frequent blood pressure monitoring in colder months. This study also observed that indoor temperature may have stronger effects than outdoor temperature on BP change, which suggest refraining from going outside and improving housing thermal environment may avoid cold-induced BP rise.

**Keywords:** Environmental Temperature; Blood Pressure; Systematic Review; Meta Analysis

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Perceived Mobility as Predictor of Sedentary and Walking time in a Healthy Elderly Population in Taiwan

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Background
Studies have showed that regular physical activity, such as aerobic activity, short-term exercise programs or even walking, can significantly reduce the risk of chronic disease, functional limitations and disability. Physically inactive or sedentary lifestyle would make elderly be less satisfied with quality of life. Walking is the most popular physical activity and aerobic exercise that is common to everyone, except for those who have seriously disabled or frail conditions. However, studies of sedentary and walking in elderly are scarce and primarily limited to elderly with disability or cognitive deficit rather than healthy older adults. Therefore, the purpose of this research is to examine the perceived mobility in predicting sedentary as well as walking time of healthy older adult, respectively.

Methods
Data from 2009 National Health Interview Survey (NHIS) in Taiwan, a cross-sectional population survey, was examined. After excluding those who living in long-term care institutions and those with disability (ADL ≥1), a total of 2,338 older adults (aged 65-97 years, 55% female) was recruited as the study sample. Perceived mobility was measured by asking respondents 8 items of how difficulty to perform and was divided into 4 groups (score 0, 1-2, 3-5, ≥6) in the analysis. Sedentary and walking time were measured by asking respondents how many days and how much time per day in sitting or walking in the past two weeks, and was calculated into minutes per day. Socio-demographic and health-related variables, including gender, age, levels of education, marital status, depression, and number of disease were controlled as covariance. Descriptive statistics and multiple regression models of sedentary and walking time were separately estimated with perceived mobility.

Results
Firstly, for sedentary time, there are differences among groups by age, level of education and number of diseases. Results showed perceived mobility was a significant predictor to sedentary time even after controlling all covariance; the elderly reported the worse perceived mobility, the longer they sat. Marital status (married and not separated), number of disease (have had 1 to 2), and education backgrounds (graduated from junior high schools or above) are also the determinants of sedentary time. Secondly, however, walking time differed according to different levels of education only. In the regression model, walking time could be predicted by perceived mobility only when the scores were 3 to 5 and ≥6 items; however, all covariance was no significant in the model.

Conclusion
This study found that perceived mobility surely is an important predictor of sedentary and walking time in healthy elderly population. Interestingly, elderly who had higher academic degrees had longer sedentary time. Furthermore, none of personal socio-demographic and health-related variables could predict walking time of elderly in Taiwan. Thus, further research is needed to find other critical determinants of walking time, like environmental or community factors, which may encourage older people to engage in physical activities.

Keywords: NHIS 2009; physical activity; sedentary lifestyle
Social environments and social participation of older adults in Taiwan

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Introduction
Social participation is an important factor of active ageing and is significantly associated with elder’s health. However, such participation will be affected by elder’s living environments or social resources, which is a contributing factor for health behaviors, lifestyle and then their health. Although many studies have focused on the association between social participation and elderly health, few have explored the relationships between social environments and social participation among older adults. Therefore, the aim of this study is to examine the relationship between social environments and social participation of older adults in Taiwan.

Method
This study used two levels of data: individual and ecological data. Individual data was from 2009 National Health Interview Survey (NHIS) in Taiwan. After excluding institutional adults and those without social participation information, which was measured by two questions, “are you a volunteer now?” and “do you join the clubs or activities in community or in neighborhood?”, a total of 2842 older adults aged ≥65 year and above was recruited as the study sample. Other control variables of individual level included gender, age, educational level, marriage status, religion, health behaviors (drinking, smoking, and exercise), employment, ADL, and number of disease. Social environments were an ecological level of data and divided into two types: “hardware environment” and “software environment”, which was collected from the open government data in Taiwan, such as National Statistics, Social and Family Affairs Administration, Ministry of Health and Welfare, etc. “The built area of park, green space, square” and “No. of community center” were classified as hardware environment. And the software environment included “No. of community development association” and “No. of community care group”. Social environments were then calculated as per community average. Furthermore, this study used two other indicators to present urbanization level and wealth of the city/county, including “population density” and “average income per person” which were also collected from National Statistics. In the analysis, social environments and urbanization level were divided into quartile. Therefore, descriptive statistics, Chi-Square, and multi-level analysis of Hierarchical Linear Modeling (HLM) was used in this study.

Results
Nearly 30% of males and one quarter of females had one kind of social participation (29.63% vs 25.11%) and the percentage of participation decreased with the growth of the age. With the increases of population density and average income per person, percent of social participation significantly decreased. Comparing effects of hardware and software environments, social participation increased only with more software environment. HLM models indicated that more software environment is positive associated with social participation. After controlling covariates of individual data, software environment is still significantly associated with more social participation. Noticeably, hardware environment showed no difference in social participation.

Discussion
On the whole, soft environment is significantly associated with social participation of older adults. Thus, this study suggest future policy for social participation promotion should consider more different software environment such as organizations, clubs, groups, programs, strategies and so on.

Keywords: Social environments, Social participation, Elderly
Multi-Attribute Decision Models for Adopting in Risk Play of Elderly and Disabled Healthcare System

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Background:
The advancement of science and technology are dependent upon parallel progress in healthcare system. The new techniques and relationships are discovered and these advances make new types of technique for the quality of healthcare system. These discoveries were not any practical utility unless which the results are backed by quality techniques. At the same time, many studies are conducted during recent years on exploring the impact of information technology (IT). Thus the performance of the organization is used in the quality of pervasive healthcare system. Although the result for all cases is not going to be the same, but it was a good technique to find the relationship between IT and performance.

Objective:
This research will be integrated technologic-economic deterministic simulation system for decision-making support in elderly and disabled healthcare system. An integration of information system is need to advise managers of formal instructions, recommended guidelines and documentation requirements for various decision making processes.

Methods:
This paper presents application of simulation model for evaluating investments and combination with multi-criteria decision models in healthcare processing. The simulated alternatives are evaluated with multi-attribute decision tools as expert system. The simulation system consists of deterministic healthcare simulation models that enable different types of costs calculations for healthcare processing in the framework of supplementary activities.

Results:
Simulation models results were further evaluated using a qualitative multi-attribute modeling methodology, supported by the software tool DEX-I and quantitative analytical hierarchical process (AHP). The simulation model results present input parameters by using the standard financial analysis (i.e., cost benefit analysis). These results show that on three types of sample healthcare styles before and after investment into specific processing equipment of healthcare. Then the results were the positive financial values. In after investment, the results show the importance of variety and share of specific product selection. Consequently, the financial analysis results for sample healthcare processing were after 10 years with constant annual cash flow and 8% discount rate a positive value. So internal rate of return at investment return period is 8.94%. The results show that investments into healthcare processing on sample healthcare styles are financially feasible.

Conclusion:
The integrated simulation model as the discount cash flow and multi-criteria decision analysis present the suitable methodological tool for decision support on healthcare system. The system tasks into consideration different independent criteria and enables ranking of healthcare business alternatives. The real value of presented decision model is in its capability to conduct different kinds of "what if" analysis in healthcare processing projects. Therefore, the model results are useful in practice and helpful in setting up hedges in the correct proportions to minimize risk. Thus it would help preventing many inappropriate decisions made on elderly and disabled healthcare system.

Keywords: Decision mode; Risk in healthcare; Healthcare system
IDEA BUILD AND FIGURE OF UNIVERSITY STUDENT IN JAPAN AND THAILAND

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In recent years, the desire to be thin regarding body habitus has been spread among even younger children: thus, surrounding of eating, such as dietary and caloric restriction, has been drastically changing. In addition, it is also suggested that a long-term attempt to lose body weight is associated with delinquency, including drug use. On the other hand, obesity is one of the risk factors for life-style diseases: therefore, weight reduction is warranted. However, before reducing body weight, it is critical to diagnose obesity status and to correctly understand body habitus and body stature. In this study, we investigated the associations between current and dream height, weight, percentage body fat, and body-mass index (BMI), and perception of body habitus and body stature. As results, both male and female university students in Japan and Thailand desire “to be taller” in height. Male university students desire “to gain weight” and female university students desire “to lose weight.” Based on current BMI, 98.1% male and 100% female university students in Japan were classified as either “underweight” or “normal.” But, calculated dream BMI showed that 9.3% male and 73.9% females university students in Japan desire to be in the BMI category of “underweight,” so particularly female university students were found to consider “underweight” rather “normal” as the ideal body habitus. Based on current BMI, 91.6% male and 94.4% female university students in Thailand were classified as either “underweight” or “normal.” But, dream BMI revealed that 16.9% male and 77.8% females university students in Thailand desire to be in the BMI category of: Added by the translator for clarity. “underweight,” so particularly female university students consider “underweight” than “normal” as the ideal body habitus. If university students in Japan and Thailand continue to desire to be thinner, it will give an adverse impact on their health. Furthermore, we observed the almost similar tendency about perception of body habitus and body stature in Japan and Thailand: there were significant associations between perception of body habitus and body weight, percentage body fat, and BMI, indicating that university students mainly concerned about body weight and BMI.

Keywords: Body stature; Body habitus; University students
Evaluation the Effectiveness of Influenza Vaccinations for Elderly Patients with End-stage Renal Disease in Taiwan - A Population-based Study

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Background:
Taiwan has the highest prevalence of end-stage renal disease (ESRD) in the world. Patients with ESRD are considered at higher risk of influenza-related complications, thus influenza vaccination is strongly recommended to reduce morbidity and mortality.

Objectives:
The study aimed to assess the effectiveness of influenza vaccination for elderly ESRD patients on the risk of mortality and hospitalization during the influenza season in Taiwan.

Methods:
This retrospective study included 27,615 ESRD patients aged 65 years or older extracted from the National Health Insurance Research Database of a nationally representative sample in Taiwan. Multivariate logistic regression analyses were used to compare the outcome between vaccinated and unvaccinated group.

Results:
36.82% elderly ESRD patients received influenza vaccine in 2011. After adjusting for confounders including age, gender, dialysis modality, income, urbanization, comorbid conditions, and health care utilization, the results indicated that vaccinated group was associated with a significantly lower all-cause mortality (relative risk [RR]: 0.72; 95% confidence interval [CI]: 0.64-0.82) and hospitalization of respiratory diseases (RR: 0.78; 95% CI: 0.71-0.86), pneumonia and influenza (RR: 0.81; 95% CI: 0.72-0.91), and heart disease (RR: 0.89; 95% CI: 0.81-0.99) when compared with unvaccinated group.

Conclusion:
This study indicated that influenza vaccination can reduce the risk of all-cause mortality and hospitalization of influenza-related complications during the influenza season among elderly ESRD patients in Taiwan.

Keywords: Influenza vaccination; End-stage renal disease; Effectiveness
Use of Seasonal Influenza Vaccination and its Associated Factors among Elderly People with Disabilities in Taiwan: A Population-based Study

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Background:
Influenza immunization among elderly people with disabilities is a critical public health concern; however, few studies have examined the factors associated with vaccination rates in non-Western societies.

Objective:
The study aimed to investigate the use of influenza vaccination among elderly people with disabilities in Taiwan and its influencing factors.

Methods:
By linking the National Disability Registration System and health service claims dataset from the National Health Insurance program, this population-based study investigated the seasonal influenza vaccination rate among elderly people with disabilities in Taiwan (N = 283,172) in 2008. A multivariate logistic regression analysis was conducted to adjust for covariates.

Results:
Nationally, only 32.7% of the elderly people with disabilities received influenza vaccination. Those who were both physically and mentally disabled, 70–84 years old, highly educated, married, had comorbidities, had frequent outpatient department visits, and received influenza vaccination and health examination during the preceding year were more likely to receive influenza vaccinations. However, those who were mentally disabled, severely disabled, aged 85 years and older, aborigine, and hospitalized during the preceding year were less likely to receive vaccinations.

Conclusion:
Although free influenza vaccinations have been provided since 2001 in Taiwan, influenza immunization rates among elderly people with disabilities remain low. Policy initiatives are required to address the identified factors for improving influenza immunization rates among elderly people with disabilities.

Keywords: Disability; Elderly; Influenza vaccination; Factor
The relationship between social participation and EQ-5D scores for the elderly in Taiwan

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Background:
Social participation, including volunteering, community participation, and caring for family, is an important factor of active ageing for older adults. Studies have showed that more social activities will lead to a better quality of life for the elderly. However, many questionnaires for measuring quality of life are often too long and is not suitable for older adults. EQ-5D is a newly developed, effective and simple instrument for assessing health-related quality of life for the elderly.

Objective
Studies have showed that EQ-5D is sensitive in measuring health status for the elderly and is helpful for physicians’ diagnosis. Previous studies usually used EQ-5D in disease evaluation, fewer studies used in examining lifestyle. Therefore, the aim of this study is to investigate the relationship between social participation and EQ-5D scores for the elderly in Taiwan.

Methods
This study analyzed 1214 samples aged 65 and above from 2009 National Health Interview Survey (NHIS) database in Taiwan. Social participation included four items: caring for child (yes/no), volunteering (yes/no), neighborhood activities (yes/no) and religious activities (yes/no). Health-related quality of life was measured by self-rated health (EQ VAS) and utility of EQ-5D which is weighted by generalized estimating equations convert from score 0-1. Control variables included social-demographic, lifestyle, no. of diseases (hypertension, cardiovascular disease, stroke, diabetes, cancer, kidney disease) and activity of daily life (ADL). Descriptive statistics, Chi-Square, T-test and regression analysis was used in this study.

Result
The average age of the samples was 73.9±6.30 years and 53.5% were female. Half of them (51.5%) had at least one-item of social participation. If we grouped social participation into 3 groups: 0, 1, and ≥2 items, the mean score of self-rated health (EQ VAS) and utility of EQ-5D increased with the number of social participations (64.69±18.91, 69.68±16.54, 69.87±17.79; 0.87±0.20, 0.93±0.11, 0.96±0.08).

Self-rated health and Utility of EQ-5D of volunteering were significantly higher than other types of social participation. After adjusted for covariates, it showed that only caring for child had significantly higher scores in both self-rated health (EQ VAS) and utility of EQ-5D. If stratified by gender and age, we found that male, aged 70-79 years, caring for child and female, aged 70-79 years, volunteering have better self-rated health. Noticeably, male, aged <70 years, and attended more than two kinds of social participation has significantly lower score in self-rated health. Female, aged 70-79 years, and attended one type of social participation is significantly better in utility of EQ-5D.

Discussion
In this study, we found that caring for child, volunteering and religious activities show positive effect for the elderly Caring for child and volunteering are altruistic activities and religion activities belong to spiritual sustenance. Namely, doing altruistic activities and personal spiritual sustenance has better health-related quality of life for the elderly. Therefore, we suggest future policy should encourage older adults to participate in more altruistic activities and spiritual sustenance programs in order to promote quality of life of the elderly.

Keywords: social participation, older adults, self-rated health, EQ-5D
The association between the types and frequency of social connection and depression among the older population in Taiwan

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With the rapid increase of aging population, mental health of the elderly become an important public health issue. Depression is one of the common mental disorders among elderly; especially, the late-life depression would increase the risk of suicide in the older population. Past studies have found that social connection is one of the protective factors for various mental disorders. However, little research has discussed the frequency of social connection on mental health in the elderly.

Purpose
This study aimed to examine the association between the types and frequency of social connection and depression among the elderly in Taiwan.

Methods
Cross-sectional dataset from the 2009 National Health Interview Survey (NHIS) was analyzed in this study. After excluding institutional adults and those without depression score, a total of 2581 samples aged ≥65 year and above was recruited. Social connection was categorized into five types: “contact with children”, “contact with brothers and sisters”, “contact with other relatives”, “contact with friends” and “contact with neighbors”. Frequency of all above connection was divided into “seldom”, “sometimes” and “often”. The depressive symptom was measured by Center for Epidemiologic Studies Depression Scale (CES-D) which score ≥10 is considered to be depression. Control variables included sociodemographic characteristics, health behavior (smoking, drinking, and exercise), number of disease and activities of daily living (ADL). Descriptive statistics, chi-square test, T test, and logistic regression analysis were used in this study.

Results
The mean age of the sample was 74.07±6.38 years, the mean score of CESD was 5.05±4.59, and 18.16% of the elderly had depression. The percent of female with depressive symptom was higher than male (15.81% vs 12.75%). Compared to non-depression group, the frequency of the 5 types of social connection were all significantly lower than depression group. Regression analysis indicated those with highest frequency of “contact with children”, “contact with friends” and “contact with neighbors” had lower depression odds, compared to those with lowest frequency. After adjusting covariates, depression odds of the above 3 types were still significantly lower (OR=0.55, 95% CI=0.38~0.79 vs. OR=0.62, 95% CI=0.46~0.83 vs. OR=0.73, 95% CI=0.56~0.96). After stratified by gender and age, we found that women aged <70 years, and “often contact with children” or “often contact with neighbors” had significantly lower depression odds, compared to those with lowest frequency. Unlike female, only male aged <70 years and “often contact with neighbors” had significantly lower depression odds (OR=0.28, 95% CI=0.10~0.76).

Conclusion
On the whole, social connection shows a protective effect on depression, although different kinds of social connection display various effect on sex and age. Therefore, this study suggest future depression prevention programs should consider different social connection strategies with different characteristics of the elderly.

Keywords: Social connection; Depression; Older adults
Study on Improvement in Health Literacy of Elderly People Living Alone Via Regional Volunteer Activities by Students

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Background:
Senior citizens who live alone are prone to inactivation in their lives. In order to support the healthy lives of them to improve their health literacy (HL) are in great need.

Objectives:
As part of health education of the elderly living alone by student volunteers, in City B, Prefecture A, a cross-sectional survey of participants’ sense of well-being, health actions, and health-related items was conducted.

Methods:
1. Overview of health education: A health education session, which takes approximately 40 minutes, consists of health-related discourse, such as talk about diet and exercise, and light exercise.
2. Survey method: The survey was conducted from August to September 2015. A self-administered questionnaire form was handed to elderly people living alone and social workers prior to the start of a health education session, and the completed forms were collected by a placement method. Survey items included the following: (1) basic attributes; (2) subjective sense of well-being/subjective sense of health control; (3) health-related items such as health actions and awareness of one’s own physical status (their blood pressure or body weight); and (4) reasons for participating in the health education session. Questionnaires collected from respondents were anonymized, and the data were entered and managed. Statistics were compiled for each variable, and chi-square tests were performed to analyze basic attributes and each factor of the target population. IBM SPSS Statistics 20 was used in the analyses.

Ethical considerations: Prior to the survey, participants were given a full oral and written explanation of the intention and content of the study and that the study results would be presented in academic meetings, and they each provided a written consent. This study was approved by the institutional research ethical committee.

Results and Significance
Of 86 participants in the health education session, 54 elderly people living alone (7 men and 47 women) and 21 social workers (10 men and 11 women), a total of 75 (collection rate of 92.6%) who provided valid responses, were included in the analysis set. The majority of the elderly people living alone were in their 80’s (52.7%). The scores of subjective sense of well-being/subjective sense of health control were higher than those in previous studies. In general, they participated in the luncheon through invitation by social workers in the hope of gaining knowledge of health and learning how to maintain or improve their health. A total of 33 elderly people (60.0%) chose “socializing with friends and neighbors” as a health action; this rate was higher than that for social workers. 9 elderly persons (16.4%) did not know their own physical status, indicating an individual variability for awareness of their own physical status.

These results suggest that health education is a social factor of HL improvement. In the future program development efforts, solicitation for participation in health education sessions need to be continued in cooperation with social workers, and educational methods should be improved in consideration of the individuality of participants.(497)

Keywords: Health education; Health literacy; Senior citizens who live alone; Student volunteers; Sense of well-being
An exploration of knowledge, attitudes and behaviours (KAB) towards pre-marital sex: A study among youths who living in rented-rooms in Hue city

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Background:
It is becoming increasingly common for young people to have abortion. One of the reasons is unsafe sex, especially pre-marital sex. Therefore, our study conducted research into the knowledge, attitudes and behaviours (KAB) towards pre-marital sex. It seeks to better understand and provide solutions to the factors that lead to unsafe sex. Research objectives: This study aims were to: 1) Explore of KAB of youths who are living in rented rooms in Hue about pre-marital sex 2) Obtain factors for current KAB of youths about pre-marital sex. Materials and Methods: This cross-sectional included a sample of 730 youths aged from 16 to 30 living in rented-rooms in Hue city in 2015. Results: 6.6% - 19.5% did not know any knowledge related to pre-marital sex, 34.1% accepted pre-marital sex with different levels, 11.9% have had pre-marital sex, with the average age of the first sexual encounter being 19.8 ± 2.2; understanding about pre-marital sex related to gender and age group; the attitude of Pre-marital sex related to gender, age group, marital/love status, understanding of consequences of pre-marital sex and knowledge about prevention measures of STDs; the behaviour of pre-marital sex related to gender, age group, marital/love status, understanding of consequences of pre-marital sex and attitude toward pre-marital sex. Conclusion: There is an increasing trend in pre-marital sex and the age youths start having sex is decreasing. It was also found that knowledge about the safe sexual are limited. These findings can lead to serious consequences for people engaging in pre-marital sex. Therefore, reproductive health education and safe sex programs need to be implemented to encourage positive attitudes and behaviours among young people in Hue.

Keywords: Pre-marital sex, Knowledge, Attitude, Behavior, Youth


Evaluation the Effectiveness of Periodic Health Examination among Elderly in Taiwan
- A Representative Population-based Study

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Background:
The rate of population aging in Taiwan is one of the fastest in the world. A free annual health examination (HE) for elderly aged 65 and over was introduced in 1996 in Taiwan. The effectiveness of HE on health promotion and disease prevention has been confirmed by studies conducted across different countries. However, most of these studies were limited to analyze data collected in a single year.

Objectives:
The aim of this research is to explore the effectiveness of consecutive, multiple-year HEs on health services utilization and mortality for elderly in Taiwan.

Method:
Data of this retrospective cohort study were extracted from the National Health Insurance claims data of a nationally representative elderly sample during a 3-year period from 2009 to 2011. Eligible participants were divided into 3 groups: no HE, received HE 1-2 times over 3 years, and received a HE in all 3 years consecutively. To reduce potential selection bias, we employed a propensity score matching (PSM) method to classify the 3 groups HE status. Multivariable logistic regression and negative binomial regression models were used to compare the risk of mortality and the visits of outpatient and inpatient among different groups, respectively.

Results:
Only 26.4% of the 82,309 elderly received HE for consecutive three years, and 55.4% of them never received any HE. Using PSM method, the results showed that elderly who received HE for 3 consecutive years had significantly 88% higher outpatient visits, but 2% lower inpatient and 88% lower all-cause mortality when compared with elderly who never received HE over the three-year period.

Conclusion:
The study found that slightly over a quarter of the elderly in Taiwan received HE regularly. The findings suggest that annual HE could lead to early disease detection and therapy in outpatient visits and, in turn, reduce the risk of hospitalization and all-cause mortality.

Keywords: Periodic health examination; Elderly, Effectiveness
ODY MASS INDEX, DEMOGRAPHICS, AND HEALTH CONDITIONS OF OLDER JAPANESE

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Background:
Older persons are particularly vulnerable to malnutrition. An estimated 20% of community dwelling older adults experience less than 20 of body mass index in Japan which is considerable public health issue. To understand prevalence of malnutrition and underlying cause could provide better community health program.

Objective:
To examine the relationship between body mass index and the presence of commonly encountered comorbidity and sociodemographic conditions in community dwelling elderly Japanese.

Methods:
Cross-sectional study of community dwelling older people were recruited in a town of Tochigi prefecture between June and December in 2015. 920 adults aged over 60 who completed questionnaire were included in the analysis. Self-reported height and weight, demographic information, health conditions, and life style were corrected. Descriptive statistics were conducted to explore the demographic and health characteristics of the sample. Pearson correlations were run to explore potential relationships between body mass index and each of the sample characteristics. The characteristics that were significantly correlated with body mass index included in the regression model to test whether they remained a significant predictor of low body mass index.

Results:
The average age of the participants was 71.61 years (SD 6.55, range 60-98). 52.9% were female and a majority of the participants were living with family member (89.8%) and independent of the activity of daily living (94.5%). For those participated the study, 31% were less than 21 of body mass index consisting with 65% younger than 75. Sex, living alone, require assist with living, tendency of depression, and social isolation were significantly associated with body mass index. We did not fined association between body mass index and medical diagnosis, prescription, subjective health, and cognitive decline. Logistic regression analysis revealed that living alone and require assist with living were predictors of low body mass index.

Conclusion:
Several potential relationships may explain low body mass index in the community dwelling older persons. Community preventive program specifically provide to vulnerable population who live alone and require assist with living focusing on nutrition and social activities may prevent malnutrition. Further research using cohort methods could explain the mechanism of low body mass index in the older population.

Keywords: Body mass index; Older adults; Health indices
Utilizing Plan-Do-Check-Action Methods for Reducing of Nurse Needle stick Injuries

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Background:
Needle stick injury is the most common occupational injury for nursing care personnel. According to the 2012 Exposure Prevention Information Network (EPINET) estimation, 3.5 out of 100 nurses have experienced needle stick. Our hospital statistics indicated that between 2012 and 2013, the needle stick occurrences for nurses were 5.33\% (45/844), and 5.68\% (49/862), respectively. Due to the continual increase in needle stick accidents, a Plan-Do-Check-Action (PDCA) management method was implemented for the reduction of injuries to improve nursing personnel occupational safety.

Objectives:
Investigate the cause of nurse needle stick accidents and assess the efficiency of the prevention intervention in a medical center in Taiwan.

Methods:
The causes of needle stick accidents in 2013 were determined to be attributed to removal or disassembling of equipment or instruments (24.5\%; 12/49), the use of needles or sharps (20.4\%; 10/49), and the recapping of used needles (18.3\%; 9/49). Therefore, the following strategies were implemented for needle stick prevention: (1) discuss and review each needle stick incidents for case feedback; (2) organize needle stick prevention seminar to reinforce personnel knowledge; (3) improve needle stick prevention education and training, and include this training as a new employee occupation education requirement; (4) reiterate the importance of "Hand Fee" principles in the operating room and perform random inspections; (5) thoroughly implement "no recapping of needles" and personal carry of sharps recycling box; and (6) the promote the use of safety needles.

Results:
The needle stick accidents reduced from 5.68\% (49/862) in 2013 to 4.2\% (37/882) and 3.6\% (31/856) in 2014 and 2015, respectively. The implementation of the prevention program has exhibited significant improvements, where the accidents rate was reduced by 2.2\%, with continual annual reductions.

Conclusion:
Improvement strategies such as the continual education and promotion, random safety inspections, and staff needle stick prevention and operating procedures were established with PDCA methods for reducing nurse needle sticks and creating a safer working environment.

Keywords: Needle stick; Nursing personnel; Needle stick prevention
Application of Root Cause Analysis to Improve the Safety for High Alert Medicine

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Background:
The main patient safety objective for the Joint Commission Taiwan from 2004 to 2015 has been “improving medication safety”, especially for the safe use of high-alert medications.

Objectives:
This study is to investigate the Heparin medication dosage errors and its related factors as well as the results of an improvement intervention program in a medical center in Taiwan.

Methods:
The adverse event incident decision tree (IDT) analysis determined that the cause of this medication error is of a system flaw that can be improved with the utilization of a root cause analysis. The Heparin medication dosage error was determined to be a result of the followings: no establishment of medication safety dosage in the hospital information system (HIS); no establishment of a double verification mechanism when the medication is updated to high-alert by the pharmacy; the HIS was not setup that a physician can only approve one Heparin medication treatment at a time; and the nurses lacked high-alert medication specialization trainings. Through the efforts of the interdisciplinary team, a Heparin safe dosage intravenous push rate (IVP) was established through the literature review performed by the medical treatment and pharmacy department; the information system was updated by the pharmacy department to consist of a double verification and a total of 5 checkpoints for prescribing high-alert medications; the high-alert medication standard operating procedure (SOP) was updated; and employment training was established for new nursing personnel and hospital employees.

Results:
There has been no Heparin medication dosage error incident in the unit (entire hospital) since the end of the improvement program. The nursing personnel understood the SOP of high-alert medications, successfully performed the double verification process, and has increased safety knowledge and response ability for dealing with high-alert medication.

Conclusion:
The occurrence of adverse event is reduced by utilizing root cause analysis, establishing safety barriers, and improving medical care personnel medication knowledge. This program is further implemented to the entire hospital for improving medication safety through the updated information system.

Keywords: Root cause analysis; Patient safety; Medication error

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The honey fuse alone Vera jell gauze abilities heal a wound Preventing of gauze attach to the bruise.

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The wounds caused tearing in the epidermis skin, that's wounds abrasions looks flaky white that may have blood or serum oozing from the wound a little. The based on the force acting on the skin some bruises were torn mesh epidermal skin cells from a bruise then pull frayed gauze dressings on every day. Non-prescription medicines that are used to heal wounds, which are trade names bactigras which is expensive. But we used to close the wound to prevent infection in wounds and cuts through the skin in general. The originality of innovation dressing invention from honey and Thai herb (Aloe Vera) healing protective gauze attached bruise can replace sheets of dressing's bactigras gauze for patients with lesions characteristic bruising 30 case from the population example from motorbikes accidents patient of 100%. We keep history patients taking the new average but selective a specific target group of patients with abrasions 2 areas wounds to particular patients need no medication in the case of some diseases, the patient medical records dressing staff While the gauze (the old case) has measured the level of pain while pulling the innovative The honey fuse alone Vera jell gauze abilities heal a wound prevent of gauze attach to the bruise. The patient must to dressing everyday unless order to close the case by a doctor or nurse professional New dressing area each time. The officials are satisfied with the innovative use the honey fuse aloe Vera jell gauze abilities heal a wound and preventing of gauze attach to the bruise. Good level of 3.28 gauze against the bruise on innovation the honey fuse alone Vera jell gauze abilities heal a wound prevent gauze attach to the bruise changes in the disabled case. The average 2.37 days for patients with congestive pain while pulling the gauze bandage off. In less bruising, pain, 1.85, the honey stimulates the growth of skin cells. This's creates a new skin to cover the wound to be treated. We brought aloe Vera ointment to treat wounds abrasions 50 percent. Innovative by the honey fuse alone Vera jell gauze abilities heal a wound preventing of gauze attach to the bruise was the wisdom that brings the maximum benefit and create value.

**Keywords:** Bruise, the honey fuse aloe Vera jell gauze, the attaching to the bruise.
Thai massage slipper reduce for foot neuropathy in the diabetic type II patient

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The neuropathy diabetic patient is problem the loss never system of sensation in the foot. The symptoms in diabetic patients with foot were found due to the nerve of the foot was broken and foot loss of sensation in the soles of the feet and the resulting risk to injury. It leads to severe infection then loss of function and until the last may be cut in the leg. The Thai traditional medicine department had the foot reflexology services to reduce foot neuropathy in diabetes patient. We apply therefore the Thai traditional medicine innovations initiatives applications from foot reflexology become Thai massage slipper. The invention acupressure wear slipper in the house using in patients with diabetes type II moderate risk patient – examiner are 30. They live 5 villages in the responsibility PCU Ban-Naiphong area in Ao Thong, Wangwiset, Trang. The evaluation wearing Thai massage slipper for foot reflexology to relieve symptoms from Monofilament, a test of pain scale and measurement of FBS. Then study observes in the diabetic type II patients between foot reducing neuropathy impact to reducing measurement of FBS. The examiner had the foot neuropathy on left foot only, right foot only and both feet. The difference between before and after diabetic type II patient wearing the Thai massage slipper reduce for foot non neuropathy statistically significant. (P > 0.05)

Keywords: Thai massage slipper; Foot neuropathy; Diabetic type II patient.
The study of caregivers and community participation in reactively and proactive about childcare factors to promotion of child growth and development Kaowiset sub-district, Wangwiset district, Trang province

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The Objective of this research to Study growth and development situation in 0 - 5 years child on the regional and Study Caregivers raring and community participation factors in reactively and proactive that related to child growth and development. The Methodology was Cross section Survey. The Samples were purposive sampling 0 - 5 Years Childrens in kaowiset subdistricts Wangwiset district in Trang provinces in the 279 samples were collected from May to August 2015. Analysis by percentage, mean, and chi - square test. The Result General data, 324 cases of 0 - 5 year children were collected 82.8% were male and 47.2% were female. About Caregivers, 83.2% were female, 80.19% of caregivers marital status were married, 43% of the children lived in extended family (family size 3 - 4 and 6 - 7 persons per family), 40.2% of caregivers' age were between 20 - 30 year, 43.83% and 35.25% of caregiver finished secondary school and primary school respectively, 35.25% of caregivers were housewife and 22.54% were employed out of their houses. Child Growth situation. Measured by Weight for Age, 73.68% were normal Weight for Age, 9.97% were Overweigh. Measure by height for age (HFA), 90.34% were appropriate height for age, 9.66% were rather short and short. Measured by weight for height (WFH) 77.11% were appropriate weight for height, 8.94 % were rather obesity and obesity, 5.4% were thin Child development Situation. 71.47% were normal child development in all aspects, 28.53% were delayed development, Normal Child development in social and selfcare development, fine motor development, Language development, Gross Motor development were 97.44%, 93.59%, 75.05% and 96.17% respectively. Factor that significant related to height for age (HFA) was caregiver. Factors that Significant related to weight for height (WFH) were caregivers’ marital status, Family Type. Factors that significant related to child development were caregivers’ marital status, caregivers’ age, family income. Child raring behavior significant related to overall child development, language development, fine motor development and social and selfcare development Conclusion and recommendation. The 18.2% of 0 - 5 years child had the problem of delayed development especially in language development and had the problems of growth development such as over weight 7.92%, rather obesity and obesity 8. 94%, stunt 9.66%. Caregivers, health personnel, teachers and communities should joined together to promoted child growth and development by using maternal and child Health book and all level of hospitals should improve the quality of care to comply with the standards and improve the surveillance, monitoring and evaluation system of child growth and development.

Keywords: Community participation, Childcare factors, Caregivers
The development of integrated vectors management (IVM) apply removal carrier on the responsible area primary care unit of Ban-Naiphong

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Dengue outbreaks hard during the rainy season every year, there are patients who died of the disease to a minimum and that we can prevent the dengue threat, we have to just try not to bite. The most important thing is to eliminate mosquito larvae breeding in the water like a backwater. The grow up as a mosquito infestation and disease. Thus contributing to the project to develop the capacity of local governments and community-driven management, prevention and control of mosquito-borne diseases hybrid rice. The solution to suit your space. And to develop a strong parish in the prevention and control of dengue sustainable. Following the policy of the Department of Disease Control. Every local simultaneously control the disease. Everyone has a role any different. Therefore be coordinated into a systematic process to manage disease vectors hybrid or IVM. The aim is to develop partnerships to eliminate vectors to index larvae drop and to make people aware to prevent contagion. The fifth step is step one). The Meeting IVM district plans to set up a committee meeting and 2). Step 2 Analysis of Risk Assessment analyzes the opportunities and risks of the disease 3). The plan with activities planned system IVM 4).There are mobilizing. What supports and sponsors Available to control the disease. 5). Evaluation of prevention and control of dengue in the district. Assessed by analyzing data from the evaluation of the HI CI monthly survey of six consecutive months. Cognitive skills assessment after the event, which consists of two parts, the first data to answer questions. Make check or wrong number of 10 indicators across 70 percent or answer seven questions, and the second inquiry the open end of the activity, each activity is suggested after the index vector larvae HI = 22.53 / CI = 16.81/ 8.25 of average people have a deep understanding of all operational control disease vectors. Along with the monitoring and evaluation of the carrier’s disease. Following the operation continues. And expect to get effective control of insect disease increases. People and creatures are safe.

Keywords: IVM; integrated vectors; HI CI.
The investigation of the epidemic of scabies in ground security air force crops, Wing 56 Songkla province

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The investigation of the epidemic of scabies in ground security air force crops, Wing 56. Operate case from December 2015 disease surveillance to February 2016. The propose for To confirm the disease then finding risk factors for the disease and to propose guidelines for disease control. The methodology was the descriptive epidemiological study by review an outbreak of scabies in Thailand, case finding by definition of the suspects are those who have a little water or blister with red itchy then confirmed by a doctor who carried out the investigation and control of the disease. Analysis epidemiological studies of risk factors among the patients and the patients exploring the environment and implementation disease control in patient, handlers and environment. The investigation found a sample of soldiers suspected scabies 5 sample. All 822 soldiers, representing a 0.61 percent rate of sick patients, average age 22 years largely without comorbidities. Patients began in late December 2015, patients in the highest in the month of January. Factors that affect the spread of the disease include. The patients are not cured congestion environment unsuitable working and living in a pile of mattresses regularly. The disease control measures are implemented. The patients cured of topical protection anyone who touches the sprayer eliminate scabies using clean leaning the inmates have to share and after each use the result of the operation, all patients recovered from the disease and found a new patient to add after operation. However, it is to determine a common approach to the surveillance continued after the outbreak.

Keywords: Epidemic; Scabies.
PT 0024

Survey on nursing teachers’ experience of counselling in regard to cyberbullying among junior high and senior high school students.

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Background

As the Internet and its associated applications, such as social networking and widespread smartphone use have become commonplace among young people, cyberbullying and means of combating it have become pressing challenges in junior and senior high schools. In Japan, school nurses play an important role not only in providing counselling to bullied students, but also in preventing and mitigating such bullying. There is widespread media and public speculation that many junior and senior high schools in Japan have cyberbullying problems and, resultantly, many bullied students seek consultation with school nurses. In turn, the nurses’ greater involvement is looked to as a preventive measure. However, not all school nurses can provide such counselling because of many school- and health-specific structural and environmental constraints. The current state and prevalence of consultation on cyberbullying has not been well investigated, and the characteristics of school settings that affect school nurses’ provision of counselling on cyberbullying are unclear.

Objective

This study aimed to clarify the factors associated with school nurses working in junior and senior high schools in central Japan’s Aichi Prefecture who have provided students with counselling on cyberbullying, and the factors underlying the need for such consultations.

Method

From December 2015 to March 2016, we conducted a cross-sectional survey of school nurses working in junior and senior high schools in Aichi. Participants were asked to complete a questionnaire and return it by postal mail. The questionnaire asked about experiences within the past year counselling students on bullying and cyberbullying, about the school environment, learning experiences concerning how to handle cyberbullying, and perceived difficulties in collaborating with other school personnel in coping with bullying problems among students.

Result

Questionnaires were distributed to 712 school nurses, of whom 422 replied, for a return rate of 59.3%. A total of 232 respondents (55%) reported having provided counselling to students on cyberbullying within the previous year. Provision of such counselling was attributed to: working at a junior high school, there being only one nurse in the school, existence of a school counsellor and/or a dedicated counselling room, previous discussion with school personnel on how to prevent bullying, difficulty gaining assistance of a school counsellor, and existence of a clear role for the school nurse regarding how to address bullying.

Conclusion

Over half of the school nurses surveyed had within the previous year provided counselling to students on cyberbullying. We speculate that further potentially helpful means of combatting this form of bullying are placing

keywords: School nurse; Cyberbullying; High school; Counseling
Drowning Surveillance system and Prevention Program needs for Natural Disaster in Cambodia

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Backgrounds and Objectives:
The main natural disaster in Cambodia is flooding. Cambodia continues to be affected by the flooding of the Mekong River almost every year that the volume of rain fall is high. Despite considerable life lost and property damages, disaster preparedness projects have not been widely implemented, therefore drowning surveillance system and prevention efforts are needed to help communities better prepared for the flooding. It is crucial to develop a system that can help monitor the occurrence of drowning, as well as to explore factors associated with drowning and to recommend strategies to prevent drowning injuries.

Methods:
Literatures were reviewed on mainstreaming flood and drought risk mitigation in East Mekong Delta, in Cambodia as well as health strategic plan (2008-2015), and related policy documents. Project formulation meetings were also conducted with key representatives from the Provincial Health Department, National institute of Public Health, and Ministry of Health in Cambodia.

Results:
It has been observed that and floods have been occurring almost every year and damaging agricultural production and livelihoods and constraining Cambodian development and poverty alleviation. Statistically, Cambodia, floods kill an average of 100 people annually and cause agricultural losses of 100 to 170 million USD each year. With an estimate of annual rain fall of between 1,100mm to more than 4,000mm per year, Cambodia have experienced severe flooding in 1961, 1966, 1978, 1984, 1991, 1996, 2000, 2001 and most recently in 2011, 2013 and 2014. In 2000, the flood killed 347 victims, 80% of whom were children, and that 3,448, 629 people were affected. In 2001, a seasonal flood killed 14 (70% were children), destroyed 2,251 houses, 39Km of national roads, 7,937Km of rural roads, 175 bridges, 911 schools, 45 health centers and 201 irrigation stations. In 2013, flooding has killed at least 83 people (26 women and 34 children) and more than 800,000 people have been affected.

Discussion:
To better prepare victims from natural disasters, especially flooding, and consequently to reduce the number of premature death dues to drowning accidents, followings are recommended: 1) To set up a surveillance system for drowning and to use the system to strengthen the response mechanism, 2) To raise awareness about flood disaster preparedness among flood prone communities, 3) To give information to policy makers regarding strategies for flood preparedness. In addition, rapid assessment for the “drowning prevention program” need to be conducted with the surveillance survey. Also, implementation of the drowning prevention programs and capacity building for disaster preparedness need to be further conducted. Flood-related risk reduction intervention efforts can save innocent community victims.

Keywords: Disaster risk reduction; Drowning (prevention) program, disaster surveillance; Cambodia; Flood
Backgrounds:
Upper gastrointestinal hemorrhage (UGIH) is one of the most common emergency clinical manifestations. The definite patient risk stratification is not widely accepted. Emergency endoscopy for every patient is not possible in many medical centers. Scoring tools to predict need for intervention, re-bleeding and mortality of upper gastrointestinal hemorrhage (UGIH) have been developed but simple guidelines to select patients for emergency endoscopy are lacking.

Objective:
The aim of the present report is to develop a simple scoring system to classify upper gastrointestinal hemorrhage (UGIH) severity based on patient clinical profiles at the emergency departments and to compare the performances of the Blatchford score, the Rockall score, and the UGIH score 2014 on UGIH severity triage.

Material & methods:
A retrospective cohort study was conducted in Kamphaengphet hospital Thailand. Patients were criterion-classified into 3 severity levels: mild, moderate and severe. Clinical and laboratory information were compared among the 3 groups. Significant parameters were selected as indicators of severity. Coefficients of significant multivariable parameters were transformed into item scores, which added up as individual severity scores. The scores were used to classify patients into 3 urgency levels: non-urgent, urgent and emergent groups. Score-classification and criterion-classification were compared. The score performances were compared by diagnostic indices, discrimination curves between UGIH SCORE 2014 and the other two existing scoring systems.

Results:
Significant parameters in the model were age ≥ 60 years, pulse rate ≥ 100/min, systolic blood pressure < 100 mmHg, hemoglobin < 10 g/dL, blood urea nitrogen ≥ 35 mg/dL, presence of cirrhosis and hepatic failure. The score ranged from 0 to 27, and classifying patients into 3 urgency groups: non-urgent (score < 4, n = 215, 21.2%), urgent (score 4 - 16, n = 677, 66.9%) and emergent (score > 16, n = 121, 11.9%). The score correctly classified 81.4% of the patients into their original (criterion-classified) severity groups. Under-estimation (7.5%) and over-estimation (11.1%) were clinically acceptable. Focusing overall performances, the UGIH score 2014 classified patients non-significantly better than the Blatchford: 89.3% vs. 87.9% for mild (P = 0.243), 87.2% vs. 85.0% for severe (P = 0.092), but significantly classified better than the pre-endoscopic Rockall score: 89.3% vs. 76.4% for mild (P < 0.001), and 87.2% vs. 81.2% for severe (P <0.001). The Blatchford score classified more patients into the mild categories, and less into the severe categories than the UGIH score 2014. In contrast, the pre-endoscopic Rockall score classified less patients into the mild categories but more into the severe than the UGIH score 2014.

Conclusions:
UGIH SCORE 2014 classified patients into 3 urgency groups: non-urgent, urgent and emergent, with clinically acceptable small number of under- and over-estimations. and demonstrated that the UGIH score 2014 also classified patients into three severity levels to help indicate endoscopy more efficiently than the other two existing scoring systems.

Keywords: Upper gastrointestinal hemorrhage; Stratification; Clinical risk; Prognostic indicators.
Ecological association between age active social environment and depression prevalence among older adults in Taiwan: a nationwide study based on National Health Insurance Research Database

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Background
Taiwan will become an aged society when people 65 or older account for at least 14 percent of the population in 2018 and a super-aged society (20 percent) in 2025. According to international statistics, more than 20% of people 60 or older have had psychological or mental diseases. Given the importance of mental health in older people, whether age active environment may pose positive influences on older people's mental health needs to be addressed.

Purpose
This study aimed to examine the association between age active social environment (AASE) and depression prevalence among older adults (≥65 years) of 23 cities/counties in Taiwan.

Method
This Study using the three database from Government statistics and the Longitudinal Health Insurance Database 2010, which is a part of the Taiwan National Health Insurance Research Database, a nationwide medical claims. Age and sex adjusted depression prevalence (ICD-9-CM: 296, 309, 311) for each of 23 cities/counties between 2009 and 2011 was calculated; and Poisson regression models were used to examine the association the prevalence of depression symptoms with AASE including 13 different types of social institutions, groups, teams, or media, in which older adults may choose to participate. Availability of AASE was measured by the ratio of numbers of AASEs by 1,000 elderly inhabitants of each city/county.

Results
The city/county-specific depression prevalence varied between 1.7% and 4.1%. The study found that the greater availability of community care centers, elderly continuing education centers, teams for folk, literature & art, and community mother's common rooms were beneficially associated with depression prevalence; while those of elderly recreation centers, community development associations, and community libraries were negatively associated with depression prevalence. The gender-specific analysis showed that elderly continuing education centers was associated with lower depression prevalence for both men and women. On the other hand, while only elderly recreation centers and community development associations were associated with lower depression prevalence in men, women were significantly beneficial from participation in community mother's common rooms, teams for folk, literature & art, and community volunteer service teams.

Conclusion
Participation in certain AASE, including community care centers, elderly continuing education centers, teams for folk, literature & art, and community mother's common rooms, was found to be potentially associated with lower depression prevalence in older people, which is essential for active ageing.

Keywords: Taiwan, Active ageing, Elder, Age-friendly social environment
Background.
Studies have showed that regular physical activity, such as aerobic activity, short-term exercise programs or even walking, can significantly reduce the risk of chronic disease, functional limitations and disability. Physically inactive or sedentary lifestyle would make elderly be less satisfied with quality of life. Walking is the most popular physical activity and aerobic exercise that is common to everyone, except for those who have seriously disabled or frail conditions. However, studies of sedentary and walking in elderly are scarce and primarily limited to elderly with disability or cognitive deficit rather than healthy older adults. Therefore, the purpose of this research is to examine the perceived mobility in predicting sedentary as well as walking time of healthy older adult, respectively.

Methods.
Data from 2009 National Health Interview Survey (NHIS) in Taiwan, a cross-sectional population survey, was examined. After excluding those who living in long-term care institutions and those with disability (ADL ≥1), a total of 2,338 older adults (aged 65-97 years, 55% female) was recruited as the study sample. Perceived mobility was measured by asking respondents 8 items of how difficulty to perform and was divided into 4 groups (score 0, 1-2, 3-5, ≥6) in the analysis. Sedentary and walking time were measured by asking respondents how many days and how much time per day in sitting or walking in the past two weeks, and was calculated into minutes per day. Socio-demographic and health-related variables, including gender, age, levels of education, marital status, depression, and number of disease were controlled as covariance. Descriptive statistics and multiple regression models of sedentary and walking time were separately estimated with perceived mobility.

Results.
Firstly, for sedentary time, there are differences among groups by age, level of education and number diseases. Results showed perceived mobility was a significant predictor to sedentary time even after controlling all covariance; the elderly reported the worse perceived mobility, the longer they sat. Marital status (married and not separated), number of disease (have had 1 to 2), and education backgrounds (graduated from junior high schools or above) are also the determinants of sedentary time. Secondly, however, walking time differed according to different levels of education only. In the regression model, walking time could be predicted by perceived mobility only when the scores were 3 to 5 and ≥6 items; however, all covariance was no significant in the model.

Conclusion.
This study found that perceived mobility surely is an important predictor of sedentary and walking time in healthy elderly population. Interestingly, elderly who had higher academic degrees had longer sedentary time. Furthermore, none of personal socio-demographic and health-related variables could predict walking time of elderly in Taiwan. Thus, further research is needed to find other critical determinants of walking time, like environmental or community factors, which may encourage older people to engage in physical activities.

Keywords: NHIS 2009; Physical activity; Sedentary lifestyle
**Effect of Laughter Yoga on Salivary Cortisol: Randomized Controlled Trial**

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**Background:**  
Humor and laughter have shown benefits in mental and physical health and stress reduction of individuals. Therefore, it can be transferred to health promotion activities. However, it is often difficult to laugh without extrinsic stimulus. Laughter yoga was developed to self-induce simulated laughter, supposed as effective as spontaneous laughter (Kataria, 2005). So far, only a few studies have reported its effect on improving depression (Shahidi et al., Int J Geriatr Psychiatry 2011).

**Objectives:**  
To assess the effect of laughter yoga on stress reduction using salivary cortisol, a stress-related biomarker.

**Methods:**  
A randomized controlled trial was conducted for a group of third-year medical students in Japan. Subjects were randomly allocated into the laughter yoga group (n = 38), comedy movie group (n = 34), and control group (n = 35). The laughter yoga group executed a forty-minute laughter yoga program with an experienced trainer. The laughter yoga program included self-inducing simulated laughter along with adjunctive relaxation techniques and yogic breathing. The comedy movie group watched a comedy movie for spontaneous laughter for forty minutes. The control group read books quietly for forty minutes. Salivary cortisol levels were measured right before, right after, and thirty minutes after the intervention with enzyme-linked immunosorbent assay (Salimetrics assay kits). Cortisol was employed as a stress-related biomarker: reduction in stress decreases salivary cortisol levels. The data were analyzed using one-way analysis of variance (ANOVA) for changes in salivary cortisol levels with time for each group and two-way repeated measures ANOVA for the changes among groups.

**Results:**  
The salivary cortisol levels of both the laughter yoga and comedy movie groups decreased with time. For right before, right after, and thirty minutes after the intervention, the mean (SD) of salivary cortisol levels were 5.4 (3.3), 4.1 (4.2), and 3.9 (3.2) nmol/l in laughter yoga group (p=0.012), and 5.1 (3.3), 3.9 (2.2), and 2.4 (1.7) nmol/l in the comedy movie group (p < 0.001), respectively. In the control group, salivary cortisol levels were stable with 3.4 (2.3), 3.2 (1.8), and 3.3 (1.6) nmol/l (p = 0.515). The changes in cortisol levels with time were significantly different among groups (p for group-time interaction < 0.001).

**Conclusion:**  
Laughter yoga practice reduces salivary cortisol levels, suggesting the effectiveness on stress reduction. Further studies are required, however, to identify which parts of laughter yoga among simulated laughter, relaxation techniques, and yogic breathing, contribute to reduction in salivary cortisol levels.

**Keywords:** Laughter yoga; Stress; Salivary cortisol; Randomized controlled trial
An innovative method based on the integration of the computer-based concept mapping and collaborative techniques and cognitive styles to improve learning motivation

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Background:
Most students have statistical anxiety when learning statistics and most statistics teachers struggle with how to enhance students’ learning motivation in statistics. Research on computer-based learning are quickly took notice of for the past years. Computer-based learning is also proved its usefulness for learning.

Aims/Objectives/Purpose:
This paper compared the effect of computer-based collaborative and individual concept mapping on enhancing students’ learning motivation in statistics under different cognitive styles.

Methods:
Participants were from two classes in a university in Taiwan total 87 students, using unequal control group quasi-experimental designs, divided into 46 students in the experimental group and 41 students in the control group. The experimental group used computer-based collaborative concept mapping to learn, while the control group used computer-based individual concept mapping to learn. A seven-point Likert scale with a eighty-one item instrument called the MSLQ (Motivated Strategies for Learning Questionnaire) was used to measure students’ learning motivation.

Results/Outcome:
After controlling the interruption of pretest, an ANCOVA result shows the F value is 69.23, p<.01, represents the students’ learning motivation would be significantly affected by different concept mapping approaches. A post hoc comparison shows that computer-based collaborative concept mapping has significant better impact on students’ learning motivation than computer-based individual concept mapping. For field dependent cognitive style, after controlling the interruption of pretest, an ANCOVA result shows the F value is 119.43, p<.01, represents the students’ learning motivation would be significantly affected by different concept mapping approaches. A post hoc comparison shows that difference in means for learning motivation between computer-assisted collaborative and individual concept mapping is 161.33 (t=10.93, p<.01). Therefore, for students with field dependent cognitive style, computer-based collaborative concept mapping has significant better impact on their learning motivation than computer-based individual concept mapping. For field independent cognitive style, after controlling the interruption of pretest, an ANCOVA result shows the F value is 3.51, p>.05, represents the students’ learning motivation would be insignificantly affected by different concept mapping approaches. Therefore, for students with field independent cognitive style, different computer-based concept mapping methods (collaborative or individual) have not significantly different impact on their learning motivation.

Conclusion/Significance/Contribution to the field:
This paper compared the effect of computer-based collaborative and individual concept mapping on enhancing students’ learning motivation in statistics under different cognitive styles. The experimental results showed that the effect of computer-based collaborative concept mapping on improving learning motivation in statistics is better than computer-based individual concept mapping. However, when considering students’ cognitive style, experimental results showed that comparing to computer-based individual concept mapping, computer-based collaborative concept mapping provides better assistance to improve statistics learning motivation for students who have field dependence cognitive style. However, for students who have field independence cognitive style, two kinds of computer-based concept mapping have not different effects on improving their learning motivation in statistics.

Keywords: Cognitive styles; Collaborative techniques; Computer-based Concept mapping; Learning motivation
EVALUATION OF THE STAFF SICKNESS SURVEILLANCE SYSTEM IN AN ACUTE CARE GENERAL HOSPITAL IN SINGAPORE

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Background
Staff Sickness Surveillance Systems have been proposed and developed for the early detection of nosocomial outbreaks of acute respiratory infections (ARIs). Our hospital utilises a combination of real-time disease surveillance (based on daily online reporting of staff medical leave details by ground staff) and alerts raised by the Infection Control Unit for early detection of infectious disease clusters among hospital staff.

Aims
Our study evaluates the performance of the current system in detecting ARI clusters, in terms of the completeness, timeliness, and accuracy of data reporting, and overall reliability of the system.

Methods
A review of all staff sicknesses due to ARI and ARI clusters detected over a 2-year period from Jan 2014 to Dec 2015 was conducted, and current thresholds for ARI cluster detection evaluated. We assessed completeness of the data by comparing our data with official records submitted to the hospital's human resource (HR) department.

Results
The overall completeness of the surveillance data was 77%. From Jan 2014 to Dec 2015, 20% of ARI medical records were submitted 1 to 2 weeks after disease occurrence. Hence, only 62% of ARI medical records were available for real-time surveillance. Using our current cluster detection thresholds of ≥3 ARI cases for small wards and ≥6 cases for large wards, we determined that a total of 128 ARI clusters had occurred between Jan 2014 and Dec 2015. Of these, 32 were clusters that progressed and required interventions to reduce further transmission. Our system was able to detect 14 of such clusters, giving a sensitivity of 43.8% and a specificity of 79.2%. The positive predictive value was 41.2%.

Conclusion
Our surveillance system has been useful for identifying staff ARI clusters for early intervention. Further enhancements are required to improve infectious disease cluster detection, including integration of the system with the hospital's human resource databases, providing web-based and mobile app platforms for ease of reporting, and regular reminders to ground staff on the importance of timely and accurate reporting.

Keywords: Disease surveillance; Nosocomial outbreaks; Singapore
A COMMUNITY-PARTNERED INFLUENZA AND PNEUMOCOCCAL VACCINATION PROGRAMME FOR SENIORS IN SINGAPORE

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Background
In Singapore, the burden of disease due to pneumonia and influenza is high and contributes to increased hospitalisation and mortality rates, especially among the elderly. However, influenza and pneumococcal vaccination rates among the elderly are very low (estimated at 8.7% and 6.1% respectively from national surveys). Our institution organised a community-based programme providing these vaccines at no cost to community-dwelling seniors (the first such programme initiated by a hospital), to encourage vaccine uptake and to monitor the impact of vaccination on their health outcomes.

Objectives
We describe the nature of our intervention and the characteristics of the participants recruited.

Methods
The programme was a collaboration between our institution, multiple community-based stakeholders caring for vulnerable elderly, and government stakeholders. Grant funding was obtained from the Tote Board Community Healthcare Fund, Singapore, to facilitate the provision of influenza and pneumococcal conjugate vaccines (PCV13) at no cost to participants. Seniors were recruited using educational talks, distribution of educational pamphlets, and active engagement by our community partners. Demographics and medical history of participants were reviewed ahead of time to ensure eligibility for vaccination. The events were sited at various community venues. All vaccines were administered by our Institution’s Travel Clinic nurses under pre-approved vaccination and safety protocols. Educational sessions on healthy ageing topics were also conducted on-site by the Health Promotion Board, Singapore.

Results
A total of 9 vaccination events were held from November 2015 to January 2016. Of 774 seniors who signed up, 101 eventually did not attend (93 no shows, 8 recently given both influenza and pneumococcal vaccines) and 17 participated only in the education sessions. The remaining 656 seniors were vaccinated. 612 (93.3%) participants were given both vaccines, 24 (3.7%) were given influenza vaccine only and 20 (3.0%) were given PCV13 only. The median age of participants was 72 years (interquartile range 62-77 years). Majority were female (64.6%), of Chinese ethnicity (84.4%), received education up to primary school level (42.4%), and resided in 1 or 2-room governmental housing rental flats (44.4%). Chronic disease prevalence was high, with 60.8% having hypertension, 57.6% having hyperlipidemia, 28.1% having diabetes, and 19.1% having cardiovascular disease and/or stroke. Only 4.0% reported influenza vaccination within the last 1 year, and 4.3% ever being given pneumococcal vaccine (PPSV23). Post-vaccination, 1 patient reported a post-vaccine rash persisting for 1 month which required clinical follow-up. No other adverse drug reactions were reported.

Conclusion
In this cohort of seniors with a high proportion of individuals from the lower education and lower income strata, the burden of chronic disease was high and baseline vaccination rates were low. Community-based partnerships are a suitable means of recruiting such elderly participants for vaccination, to reduce their risk of severe illness from pneumonia and influenza.

Keywords: Vaccination; Elderly; Influenza; Pneumococcal disease
Improving the knowledge and attitudes of community-dwelling seniors towards influenza, pneumonia and vaccination through small group educational sessions

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Background
Influenza and pneumococcal vaccination uptake rates have been consistently low among community-dwelling seniors in Singapore. The current knowledge and attitudes of seniors towards influenza, pneumonia and vaccination are not well-known. As part of a community-based vaccination programme for seniors, we collaborated with government and community-based stakeholders to organise a series of health education sessions, using a small group interaction format, to educate seniors on infectious diseases and prevention methods.

Methods
We conducted 9 health education sessions in community venues from November 2015 to January 2016, with recruitment of participants conducted 1 to 3 months ahead of event dates, in collaboration with 4 community-based partner organisations. Seniors were engaged by Health Ambassador volunteers from the Health Promotion Board, Singapore, in small groups of up to 5 seniors per Health Ambassador. A variety of healthy ageing issues were covered, including infectious diseases such as influenza and pneumonia, and the importance of vaccination. A pre- and post-education survey was administered to evaluate the impact of the health education sessions, including 9 knowledge questions on influenza, pneumonia and vaccination, and 3 questions on attitude towards vaccination. Pre- and post-survey answers to individual questions for the final sample (n=604) were compared using McNemar’s test for paired samples.

Results
A total of 655 seniors took part in our education sessions of whom 604 (92.2%) consented to participate in our study and completed both pre- and post-intervention surveys. The median age of participants was 73 years (interquartile range, IQR 68-77). 397 (65.7%) were female and 518 (85.8%) were of Chinese ethnicity. 407 (67.4%) had received no formal education or only up to primary school education, and 276 (44.4%) were in the lower income group residing in 1 or 2-room government housing flats. The most common chronic diseases were hypertension (61.9%), hyperlipidemia (57.8%) and diabetes (26.5%). Following the education sessions, seniors showed a significant increase in knowledge (p<0.0001). Seniors were 1.76 to 5.80 times as likely to answer knowledge questions correctly after receiving the intervention (p<0.0001 for all questions), and were 5 times as likely to agree that vaccinations were effective in preventing infectious diseases (OR = 5.00, 95%CI 2.59-10.59, p<0.0001). Majority (95.3%) of the seniors also indicated willingness to receive vaccinations again in the future if they could obtain it free of charge. Majority (81.9%) preferred to have vaccinations at a community venue.

Conclusion
Small group interactive education sessions were useful in improving the knowledge and attitudes of this group of seniors, of predominantly lower education level and low to middle income status, towards influenza, pneumonia and vaccination. Such interventions may also be useful in motivating seniors towards adopting healthier infectious disease prevention behaviours such as hand washing and yearly influenza vaccination.

Keywords: Influenza; Pneumococcal disease; Elderly; Education
FACTORS INFLUENCING KNOWLEDGE AND ATTITUDES TOWARDS INFLUENZA AND PNEUMONIA AMONG COMMUNITY-DWELLING SENIORS IN SINGAPORE

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Background
While previous studies have examined the knowledge and attitudes of seniors in Singapore towards chronic diseases such as hypertension and diabetes mellitus, factors influencing knowledge and attitudes of seniors towards vaccines and vaccine-preventable diseases, such as influenza and pneumonia, are not well-known. As part of a community-based vaccination programme for seniors, we organised a series of health education sessions, using a small group interaction format, to educate seniors on infectious diseases and the importance of vaccinations. We distributed surveys to seniors with questions on influenza, pneumonia and vaccination, assessed the seniors’ scores pre and post-intervention, and determined factors associated with their knowledge and attitudes towards these topics.

Methods
A total of 9 health education sessions were conducted in community venues from November 2015 to January 2016. Seniors were engaged by Health Ambassador volunteers from the Health Promotion Board, Singapore, on infectious disease topics such as influenza, pneumonia, and vaccination. Before and after our intervention, trained staff administered surveys which included 9 knowledge questions on influenza, pneumonia and vaccination, and 3 questions on attitudes towards vaccination. Results of the pre- and post-surveys were collated and paired analysis of individual questions and total knowledge and attitude scores was performed. Kruskal-Wallis testing was used for bivariate analysis of survey scores and independent demographic variables, and significant variables were included in an ordered logistic regression model.

Results
Of 655 seniors who took part in our education sessions, 604 (92.2%) consented to participate in our study and had completed both pre- and post-intervention surveys. Majority (48.0%) of participants were aged between 65 to 74 years. Participants were predominantly female (65.7%), of Chinese ethnicity (85.8%), with no formal education or only up to primary school education (67.4%), and residing in 1 or 2-room government housing flats (44.4%). Chronic disease prevalence was high, with 458 (75.8%) having been diagnosed with hypertension, hyperlipidemia and/or diabetes.

The median total knowledge score (maximum score 9) improved from 5 (IQR 4-5) to 7 (IQR 5-7) after the intervention (p<0.0001). Total knowledge scores significantly improved across both genders, all age strata, education levels, and housing types. The median total attitude score also improved from 2 (IQR 1-3) to 3 (IQR 2-3) out of 3 (p<0.0001). On bivariate analysis, higher post-intervention knowledge scores were associated with younger age (p=0.0047), female gender (p=0.049), higher education level (p=0.001) and housing type (p=0.001). On ordered logistic regression modelling, education level, housing type and pre-intervention score were significantly associated with higher post-survey knowledge scores, after adjusting for age, gender.

Conclusion
Small group interactive education sessions are a useful method for engagement of seniors to increase knowledge and change attitudes towards infectious diseases and vaccinations. Attention should be paid to demographics such as education level and income status, and engagement tailored accordingly to attain optimal results.

Keywords: Influenza; Pneumonia; Elderly; Education
The operations of alcoholics recovery by Alcoholics Anonymous: AA in Health Care Service System in Thailand 2009-2012

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This research is a retrospective study, the purpose of which is to study the operations of alcoholic recovery by Alcoholics Anonymous: AA in Health Care Service System in Thailand 2009-2012. Data were collected from 4 areas context: an addiction center hospital in Khon Kaen (Northeastern Thailand); a neuropsychiatric hospital in Chiang Mai (Northern Thailand); a tertiary care hospital in Bangkok and a community hospital in Yasothorn (Northeastern Thailand). Interviewees consisted of: 6 administrative personnel, 16 practitioners, 14 AA members and 1 monk, as well as a network from 4 areas, total 22, made up of 1 administrative person, 24 practitioners, 13 AA members, 1 monk and 2 relatives. Other data was collected from reports from 4 areas and reports from the steering committee. Data analysis used descriptive statistics and content analysis. Results showed that there were 26 AA meetings, averaging 2-3 meetings per month, operations constantly with 95%, made up of 125-135 Thai speaking active members participating, those working the program and using the services of AA on a regular basis remained sober for at least 1 year or more than 1 years 90%. More than 50% of patients experienced longer periods of abstinence and reduced use of alcohol, and developed an expanded network and increased their knowledge management. Among these, 45% occurred in hospital based to community based settings thus changing the negative attitudes of professionals by 90%. AA is helping to strengthen the treatment system, reducing relapse, extending periods of abstinence and increasing the quality of life, suggesting further sustainable support for AA in the health care system and other systems such as the justice system for patients with alcohol use disorder in Thailand.

Keywords: Alcoholics recovery; Alcoholics anonymous; Health care service system
PREVALENCE AND NEEDS OF ACCESSING TO COMMUNITY BASED REHABILITATION STRATEGY AMONG THE CHILDREN WITH DISABILITIES IN HUE CITY, VIETNAM
A QUALITATIVE AND QUANTITATIVE STUDY

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Background:
Children with disabilities can develop and achieve their full potential with assistance from the rehabilitation services. Community based Rehabilitation (CBR) as a strategy supports the full participation and inclusion of persons with disabilities in the life of their communities. It refers to the strategy of meeting the needs of people with disabilities within their communities.

Objectives:
(i) To examine the prevalence of CBR strategy, its related factors among children aged 18 and under with disabilities in Hue city of Vietnam. (ii) To examine the needs of accessing to CBR strategy among children with disabilities.

Methods: Data were collected by a cross-sectional study, concerning to qualitative and quantitative, involved 202 children with disabilities, aged between 0-18 years, who were randomly sampled from various districts in Hue city. We use a tool included 25 needs of children with disabilities that classified into 4 groups (WHO). Analysis of factors related to needs of accessing CBR strategy was done by using Chi-square test. Entering and processing data was by Epi Data 3.1 and SPSS 16.0 software.

Results: The percentage of people with disabilities had access to CBR program accounted for 35.1%. The prevalence of joining CBR program was 10.9%. The needs of accessing CBR strategy were high among children getting no education (95.6%) than the others (74.8%) with p<0.05. Among children aged 0-18, physical disability was the most common disability (42.6%), then the second was learning disability with 38.6%.

Conclusion: This research shows that CBR approach needs of children with disabilities were very high. In real term, CBR strategy was take place in every Health commune in Hue. However, this program does not work out effectively.

Keywords: Community based rehabilitation; Children with disabilities, Needs.
Visual fatigue, muscle pain and ergonomic risk among online game players

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Background:
Playing online games is one of the most popular activities among teenagers. There are some adverse health effects resulting from spending a long period of time using computer. Working at a computer can cause back, neck and shoulder pains, headache, eyestrain, and injuries of the arms and hands.

Objectives:
This research emphasized on the visual fatigue and muscle pain of the online game players after playing online game for 3 hours. The visual fatigue was evaluated using flicker instrument. The self-reported body part discomfort pain scale was used to investigate the muscle pain of online game players. Moreover, their ergonomic risks were also evaluated using RULA ergonomic assessment tool.

Method:
Utilizing a sample of 100 college teenagers at the age ranged from 18-21 years old. The research was conducted in an internet service shop. While playing online game, the sitting postures of samples were observed. The RULA ergonomics was evaluated from the observation data. After 3 hours of playing, these samples were asked to report their muscle pain by completing the body discomfort questionnaire. Then the flicker test was used to investigate the visual fatigue among these online game players.

Results:
It was found that, after 3 hours of playing, the body parts that found to have highest pain were neck, hand/wrist and lower back, respectively. The results of RULA ergonomic assessment illustrated that level of MSD risk of their sitting posture was 2 (score of 2-3). Level 2-risk implied that there was low risk and some changes may be needed. Besides, half of these online game players experienced the visual fatigue.

Conclusion:
Spending a lot of time playing online games leads to some adverse health effects. This research showed that visual fatigue and muscle pain, especially at neck, hand/wrist and lower back were found among these online game players. Change or improvement of chairs and computer table can reduce muscle pain and MSD risk. Also, reducing of time and taking a break might relieve the visual fatigue.

Keywords: Visual fatigue, CFF, Body discomfort, RULA, Online games
Comparative study on the characteristic between cylinder and tapered cape of the bristles that effect on wiping plaque in the oral cavity of the dental students of Suranaree University of Technology

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Introduction:
Oral hygiene is the indicator for quality of life. Brushing teaching and cape of blister is the important factors for oral hygiene.

Objective:
To compare the effect of the characteristic between cylinder and tapered cape of the bristles on wiping plaque in the oral cavity.

Material and methods:
The subjects were 15 the first year dental students in Suranaree university of Technology who were not had dental arrangement and signed permission. Each subject were measure plaque index (PI) by erythrosine staining the teeth. Measure the wiping plaque before and after brush the teeth and compare PI between cylinder and tapered cape of the bristles in each 2 days after meal. Analyze the data by pair t-test.

Results:
Mean age was 19.53 year old. Female 66.67 %. Before brushing PI was no difference in cylinder and tapered cape of the bristles (44.64±11.90 and 40.63±13.99). After brushing PI was no difference in cylinder and tapered cape of the bristles (7.26±15.08 and 14.29±16.96). Cylinder cape of the bristles was effective than tapered cape of the bristles in removing plaque (percent change of PI before and after brushing was 19.64±14.72 and 11.12±13.86 respectively, p <0.01).
Workstation improvement for health risk reduction: A case study of Thai floral garland workers

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Background:
Thai traditional floral garlands (Phuang Malai) work requires skills in stringing and arranging flowers into various designed patterns. Workers doing this task always work in a repetitive motion for a long time and may cause muscle fatigues, which may lead to working-related health issues as a consequence. Therefore, it is essential to investigate how workers dealing with the tasks and how they experience health problems according to the tasks so that health risks and hazards can be prevented.

Objectives:
This study aims at investigating working postures and behavior of traditional garland workers in terms of pain and musculoskeletal discomfort perception coupled with health risk assessment, prior to applying improved workstation patterns instruction that the workers can practice their tasks based on the guideline.

Methods:
The subjects in this study were forty-one floral garland workers in Nakhon Ratchasima province (8 males and 35 females). The Cornell Musculoskeletal Discomfort Questionnaire for sedentary workers was used as a tool in evaluating musculoskeletal discomfort perception among the workers. The Rapid Upper Limb (RULA) was used as a tool to assess health risks of their working postures. Working space and workstation improvement were designed based on the findings in order to reduce the risks. To evaluate how improved workstation mitigate the risks, satisfaction survey was conducted towards the subject group before and after applying designed pattern of the workstation improvement.

Results:
The musculoskeletal discomfort areas experienced among the workers are ranked as medium to high level of pain at the area of lower back (59.0%), knee (36.6%), neck (30.8. %), upper back (26.8%), and knee (26.6%), respectively. Before workstation improvement, the risk assessment using RULA assessment revealed that the average of risk level was 3. This level of the risk indicated that working postures and workstation requires the improvement. After workstation improvement to reduce health risks in terms of providing cushion seats with backrest and Japanese-style table for workers to do their tasks, the results of RULA assessment suggested that the risk level was reduced to level 2, which is an acceptable level. In addition, the majority of the workers (95.1%) are highly satisfied with the new pattern of workstation improvement.

Conclusion:
The repetitive postures and improper workstations of making Thai floral garlands led to musculoskeletal discomfort and health risks for workers. This study indicated that the ergonomic improvement of workstations could help to reduce health risks and increase comfort among Thai floral garland workers.

Keywords: Floral garland, Cornell Musculoskeletal Discomfort Questionnaire, RULA
Opisthorchis viverrini Infection and Cholangiocarcinoma: a Public Health Problem in Thailand?

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Abstract

Opisthorchis viverrini has been classified as a group 1 biological carcinogen and it is associated to cholangiocarcinoma (CCA). The first human cases of O. viverrini infection were reported in Thailand 100 years ago. Presently, based on nationwide surveyed in 2014, approximately 3.3 million people were infected with O. viverrini. The highest of prevalent was found in the northeast (9.2%) and followed by the north region (5.2%). Active surveillance for the five years period from 2010 and 2015, community-based surveys were demonstrated a high prevalence over 20%, and the highest was 45.7%. Most commonly infection was found in age group of 35 years and older, males, and agricultural workers. Meanwhile, the highest incidence of CCA with 135.4 per 100,000 among males and 43.0 per 100,000 among females was reported. Associated medical care and loss of wages in Thailand costs about $120 million annually. This review is discussed about O. viverrini infection and CCA are remains a public health problem in Thailand, particularly in the community level of northeastern and northern region. Therefore, the further works should be focused in populations living in northeastern and northern through the screening of O. viverrini infection and CCA, health behavior modification, and ecosystem improvement.

Keyword: Opisthorchis viverrini, Cholangiocarcinoma, Public Health Problem, Thailand
Atherogenic Index for Screening Subclinical Atherosclerosis in Overweight/Obesity Perimenopausal/Menopausal Women

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Background:
Obesity is a well-documented separate risk factor for metabolic and cardiovascular disease, which may reduce life expectancy for overweight people. Menopause tends to be associated with an increased risk of obesity and a shift to an abdominal fat distribution with associated increase in health risk. Menopause are the changes of hormonal status and also been linked to significant metabolic abnormalities including changes in lipid parameter levels. Atherogenic index of plasma (AIP) has been used as some practitioners as a significant predictor of atherosclerosis.

Objective:
To assess AIP of overweight and obese perimenopausal/menopausal women for predicting atherosclerosis and to compare these parameters with fasting blood sugar (FBS) and traditional lipid profile with difference AIP risks.

Material and Method:
This is a cross-sectional study involving perimenopausal and menopausal women voluntarily recruited from Suranaree University of Technology Hospital, Thailand. A standardized questionnaire was administered that included a personal and family history of chronic disorders, gynecological abnormalities, medication intake, physical activity, dietary information, alcoholism, and smoking status. Anthropometric parameter were measured and then body mass index (BMI) was calculated. Blood sampling for FBS and lipid profile level. AIP; log [Triglyceride (TG)/High-density lipoprotein cholesterol (HDL-C)] was calculated and identify low, intermediate and high risk AIP in centrally obese. Carotid intima media thickness (CIMT) > 0.9 mm is accepted as an indicator of early atherosclerosis.

Results:
About 114 perimenopausal/menopausal women. The mean AIP was 0.33 in overweight and obese, no statistically significant difference with thin or normal weight perimenopausal/menopausal women (p = 0.18) and not significant correlation with atherosclerosis (p = 0.18). But centrally obese perimenopausal/menopausal women by WHR had significantly correlation with atherosclerosis CIMT > 0.9 mm (p = 0.03). Risk of AIP in obese and non-obese divided to low; AIP < 0.1, intermediate; AIP 0.1-0.24 and high; AIP > 0.24 were 8.77% vs 12.28%, 18.42% vs 5.26% and 26.32% vs 28.95%, respectively. No difference between lipid profile parameters in both groups but FBS are significant higher in obese perimenopausal/menopausal women (p < 0.01).

Conclusions:
General obese perimenopausal/menopausal women are not correlate with subclinical atherosclerosis marker (AIP) but centrally obese may be at higher risk of subclinical atherosclerosis marker compared with non-centrally obesity. Non-obese and general obese groups in spite of no difference in lipid profile but difference in FBS. Thus non-centrally obesity had lower risk of atherosclerosis than centrally obesity in perimenopausal/menopausal women.

Keywords: Atherogenic index of plasma, Subclinical atherosclerosis, Overweight/Obesity, Menopausal women