

Poster Session II

SP-001

Continuous Quality Improvement for Service Enhancement of Registered Nurses in Fort Prachaksinlapakom Hospital Udon Thani, Province Thailand

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This cross-sectional Descriptive study aimed to study motivation affecting the continuous quality improvement for service enhancement of registered nurses in Fort Prachaksinlapakom hospital Udon Thani province. The Simple random sampling was the sampling technique which randomise from 85 registered nurses in this hospital. The study was conducted between 1 December 2008 to 30 January 2009. The percentage, average and standard deviation were analysed the descriptive data. Moreover, Pearson Correlation Coefficient and Stepwise Multiple Regression were also used for answer the research question. The study found that the motivated factor and the support factor were high (3.81 (S.D.=0.47) and 3.72 (S.D.= 0.44)). The continuous quality improvement for service enhancement of registered nurses in Fort Prachaksinlapakom hospital Udon Thani province was 3.77 (S.D.=0.47). There were age, the experience were moderate significantly at 0.05 ($r = 0.354$ p -value=0.01, $r = 0.345$ p -value=0.01, respectively). Furthermore, total motivation, motivation factors and hygiene factors were the positive relation significantly at 0.05 ($r = 0.705$ p -value < 0.01, $r = 0.662$ p -value < 0.001, p -value < 0.001 and p -value = 0.005, respectively) which were 43.1% for incorporate prediction in continuous quality improvement for service enhancement.

SP-002

Impact of Global Warming and Climate Change to the Incidence of Malaria at Pacitan Regency East Java Indonesia

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To day global warming and climate change as the world main issues, its can influenced to human lifes. Global warming caused by mainly (80%) burn fossil fuels, such as coal, oil and gas and secondarily (20%) caused by cut down forest. Protocol Kyoto in the 1997 as the results of international commitment for preventing and managements of global warming and climate change. Developed country as Annex 1 country and developing country such as Indonesia as Non-Annex 1 country. The impacts of global warming and climate change, included vector borne diseases such as Malaria and Dengue Haemorrhagic Fever. Incidence of malaria in the reaserch area has trend increase. Nationally In the 1997 and 1999 incidence of Malaria increasing from 0.12% to 0.38 % respectively. And the 1998/1999 Indonesia has out break

of Malaria at the 10 province (84 villages) a number of suffers are 19.688 person) and 71 person was die. At East Java province in the 1998, incidence of Malaria is 0.03% and in the 2000 incidence of Malaria increase to 0.14 %. This research used time series of ecological study method. The subject of research must equal population area. Localization of research in the 4 district (32 villages) at Pacitan Regency East Java Indonesia. Variables included incidence of Malaria and environmental factor such as climate, rain fall, temperature, humidity, water river salinity and pH of lagun. Data analysis used discriptive and analytic . Results of the research are decreasing rainfall (increasing temperature) can increasing cases of Malaria. According to logistic regression test, that is significant result between increasing cases of Malaria and physical environment such as rain fall, water lagun pH and salinity. Physical environment index > 1.792 is high risk and physical environment index ≤ 1.792 is law risk Recommendation to be decreasing incidence of malaria that is the government should implemented of mitigation and adaptation method.

SP-003

Comparison of Height and Body Weight Children's and Teenagers of Ulaanbaatar and Rural Region

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Physical and biological development of children are unique parameters of health children's. The purpose of our work is to make compare of height and body weight children's, living in ecologically various regions of Mongolia. Methods of research: For anthropometrical research used the classical standard methods. We survey 3000 children on 4 regions of Mongolia and Ulaanbaatar. Results: Were lower height of boys surveyed aimag's at the majority age to compare with boys Ulaanbaatar's. Height of boys and girls East and Bulgan, Govi-Altay, Middle-Govi aimag's lower from boys Ulaanbaatar on 0,18sm-4,82sm. ($p > 0,05$). Height boys Ulaanbaatar's was higher on 4,82sm -4,45sm at 13-17 years of age. Body weight of boys Ulaanbaatar at 4,6,7,10-13year old were more, than body weight boys of others aimag's. After 14 years was more body weight boys Govi-Altay and Middlegov. Body weight of girls were more of girls Ulaanbaatar at 4-7,11-12 and 17 years and at 8 years boys Bulgan and Govi-Altay aimag's on 1,1-2,01kg from other girls. Prevails the body weight girls at 9,10 years age girls Govi-Altay aimags, at 13-15 years-girls Middlegov aimags, at 16-17 year -girls Govi-Altay aimags. Is similar body weight girl's at 17 years girls Govi-Altay aimags and Ulaanbaatar ($p > 0,05$) . Conclusion: 1. Boys and girls Ulaanbaatar at the majority of age were higher, than boys of others aimags. 2. Boys Ulaanbaatar's before 14year, girls before 12 year were with more body weight.

SP-004

Ambient Temperature and Mortality in Korea: The Effect of Pm10 in Elderly

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Extreme ambient temperature has been associated with increased daily mortality across the world. We describe the ambient temperature-mortality association adjusting PM10 for three cities in Korea, Seoul, Daegu and Busan, and identify a threshold temperature and the percent increase in mortality. We observed that threshold temperatures vary by the age and cities. We adapted generalized linear modeling with natural cubic splines to examine the association between daily mean temperature and total mortality in a threshold model. We also conducted a time-series analysis adjusting for day of the week, humidity, influenza and long-term time trend. The threshold temperature for all age was estimated to be 25.2°C – 28.6°C, during study period 2000-2007. For the daily mean temperature increase of 1°C above the thresholds estimated percentage increases in total mortality were 2.39 – 9.16 for all age group and 2.4-12.8 for elderly group. The threshold temperature for elderly (age above 65) was estimated to be 25°C – 28.7°C. We found higher percent increases for elderly rather than all age group. This study identified increased mortality due to exposure to elevated ambient temperature adjusting PM10. The importance of effects of daily mean temperature and age-specific threshold temperatures suggests that analyses of the impact of climate change should take special susceptibility of elderly to environmental risks into consideration.

SP-005

A Conceptual Framework for the Provision of Non-Local Based Emergency Medical Relief Service During Acute Emergency Phase Post Natural Disaster in Low & Middle Income Countries

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Background: Whilst an array of international/non-local health actors might be supporting medical relief actions and health system recovery during acute emergency phase post natural disaster in low/middle income countries, limited analysis has been conducted to examine the role of these non-local actors might have played in emergency medical service delivery. The goal of this paper is to review existing literature and evidence so as to conceptualize how these non-local attempts might have addressed population health needs and potentially assisted in the recovery of the disrupted health systems.

Methods: Literature review was performed by keyword search in PUBMED, MEDLINE and ELDIS during April-May 2009.

Results: Search results indicated a major gap in documented evidences and discussions to conceptualize

issues around non-local health/medical relief activities during post natural disasters in low & middle income countries. Based on study findings, three different post disaster medical/health service delivery models were proposed to characterize the role of non-local health/medical actors and actions during acute phase post disaster.

Conclusion: Findings may assist policymakers and emergency response planners to maximize efficiency in natural disaster medical responses. It might also provide a decision making framework for non-local based health relief actors to evaluation their participations during early health sector recovery post natural disaster in middle/low income settings.

SP-006

The Effects of Virgin Coconut Oil in the Embryological Development of ICR Mice (Mus Musculus)

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Virgin coconut oil (VCO), a natural oil mechanically extracted from fresh coconut meat, boasts of various proposed health benefits. The study aims to determine the teratogenic effects of VCO on ICR mice and the anti-teratogenic effects of VCO on urethane-treated ICR mice. Forty nulligravid mice were synchronized of their estrus cycles. After which, they were randomly allocated to ten clusters of four mice each, with one male mouse for mating in each cluster. Random allocation to one of the four treatment groups: a negative control group treated with only water, a positive control group treated with only urethane, a VCO-treated group, and a group treated with both VCO and urethane, was done after copulation. VCO was administered through oral gavage daily from day 0 to 18 of gestation, at a dosage of 4.6g VCO/kg body weight. Urethane, was administered subcutaneously only on the 10th day of gestation, at a dosage of 1mg urethane/g body weight. On the 19th day of gestation, mice were sacrificed and hysterectomy was performed. Number of resorbed and developed fetuses was counted for each group. Only developed fetuses were analyzed for mean weight and observed for presence of developmental malformations. Results indicate that VCO is non-teratogenic in ICR mice as frequency of structural aberrations in VCO-treated fetuses was statistically comparable to fetuses of the negative control. VCO treatment significantly reduced urethane-induced cleft palate incidences and fetal

resorption, suggesting a protective action of VCO against teratogenicity and generalized fetal toxicity.

SP-007

What Make Doctors Suggest an End-Stage Renal Disease Patient with Multiple Organ Failures to Withhold Hemodialysis (HD)? A Comparative Qualitative Analysis

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Objective: End-Stage Renal Disease (ESRD) incidence in Taiwan ranked first and prevalence ranked second in the world from 2002 to 2005. Under the National Health Insurance, more ESRD patients with severe multiple organ failures undergo HD without regards to the quality of end-of-life.

The purposes of this study are: Firstly, to examine the conditions that doctors would suggest their patients to consider withholding HD. Secondly, to examine the conditions that doctors had suggested their patients to consider withholding HD but patients' family declined. **Methods:** Eight nephrologists and ICU specialists were asked to provide detailed information about their ESRD patients without revealing names and ID. Thirty-one clinical cases were collected. The Qualitative Comparative Analysis (QCA) method was employed to analyze the qualitative data.

Results: The crucial factor associated with the condition that doctors would suggest patients to withhold HD is that they found the patient is in a combination of being in critical condition, presenting emotional problem, and with no family issue. However, when the patient is in a combination of being in critical condition, presenting emotional problem, yet with family issue, the family members of the patients would decline doctors' suggestion of withholding HD.

Conclusions: When a patient suffers from emotional problems, being in critical condition, aged and with no family issue around, patients and doctors would agree on withholding HD for a better quality of end-of-life.

However, giving the same conditions, yet with family issue involved, shared decision-making is recommended to reach consensus and reserve better quality.

SP-008

Association between Body Mass Index at Different Age and the Risk of Dementia

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Background: Body mass index (BMI) change over lifetime and BMI at early age have not been investigated for dementia risk.

Method: This is a case-control study including 169 Alzheimer's disease (AD) patients, 97 vascular dementia (VaD) patients, and 215 controls from National Taiwan University Hospital and Cardinal Tien's Hospital from 2007 to 2009. BMI information was collected from medical records and questionnaires.

Results: People with a low BMI (<5 kg/m²) was associated with a 2.24-fold risk of VaD (95% CI=2.24-4.70) as compared to those with BMI change >0 . BMI change from age 40s to current age between 0 and -5 kg/m² showed a 0.35 and 0.33-fold risk of AD and VaD (95% CI=0.18-0.69 and 0.14-0.80, respectively).

Conclusions: BMI at age 40 is a stronger predictor of AD and VaD than BMI at age 20 and current age. A U-shape association was observed between BMI change from age 20s or age 40s to current age.

SP-010

Premenstrual Symptoms among Thai Women

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Objective: To evaluate the prevalence and severity of premenstrual symptoms (PMS) among Thai women.

Method: A cross-sectional study was carried out among Thai women who lived in Bangkok, aged 18-45 years. One hundred subjects were asked to complete a questionnaire assessing premenstrual symptoms. The criteria of American College of Obstetricians and Gynecologists (ACOG) were used to diagnose premenstrual symptoms. The Women's Health Assessment Questionnaire (WHAQ) was used to evaluate the premenstrual symptoms and severity. The scoring system of severity from absent to strong is 0-4. **Results:** Of the 100 subjects, 58% were diagnosed PMS by using ACOG criteria. The mean aged of subjects was 26.8 years. According to WHAQ six categories, during the premenstrual phase, the mean score of negative effect category was 4.5 +/- 4.2. The mean score of water retention category was 2.9 +/- 2.4 and impaired concentration category was 3.7 +/- 2.1. The three additional categories which are increased appetite, felling of well being, and undesirable hair change had mean score 1.3 +/- 0.9, 1.6 +/- 0.9 and 0.2 +/- 0.1 respectively. The severity of symptoms was negative effect followed by impaired concentration and water retention.

Conclusion: High prevalence of premenstrual symptoms was found among Thai women in this study sample. The negative effect was the leading severity of PMS.

Education, prevention and appropriate management for PMS are highly recommended to improve quality of life among reproductive aged women.

SP-012

Evaluation of Potent Dexamethasone-Suppressed Wound Healing Activity, Antioxidant and Anti Inflammatory Activity of Hyptis Suaveolens in Rat Models

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Dexamethasone plays an important role in retarding the wound healing process ranging from avascular/aseptic necrosis to attenuation of collagen synthesis at the site of injury. Dexamethasone can hinder quality of life in patients inevitably under steroid coverage. Ethanolic extract of Hyptis suaveolens has been shown to exhibit Dexamethasone suppressed wound healing, independent antioxidant and antiinflammatory activity. The purpose of this study is to examine whether or not Hyptis suaveolens extract could exhibit significant, wound healing in the dexamethasone challenged surface wound. The Study would expose the significant ROS scavenging and collagen synthesis potentiating property of this cost efficient pharmacological agent, to the scientific community. By using rat models for incision, excision and dead space wounds the protocol was standardized. Recruitment of standard antioxidant markers SOD, Catalase, Peroxidase and Hydroxyproline(OHP)determination protocols the above mentioned properties of Hyptis suaveolens were substantiated. This report is one of the pioneering demonstrations which showed Hyptis suaveolens alcoholic extract bring about significant and expeditious Dexamethasone suppressed wound healing. This widely available herb extract also effectively scavenged ROS and provided the necessary anti inflammatory coverage promote immediate wound healing in the presence of a synthetic glucocorticoid in rat models.

SP-013

What Is the Need of Health Staff at Public Health Center?

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Objectives: The aim of the study was to analyze the needs of health staff at seven public Health centers in central Halmahera, North Maluku, Indonesia; to know the dominant diseases and outputs of public health center.

Method: The study was a qualitative and quantitative using a case study approach, conducted in April to July 2008. The data were collected through in-depth interview, documents and analyzed descriptively.

Results: The result of the study indicated that health staff was not distributed equally both in numbers and types. The highest number of health staff at Health center was 28 (24%) and the lowest was 3 staff (3%). The type of diseases were dominated by infectious diseases (upper

respiratory tract infection, clinical malaria, skin disease, diarrhea, and lung TB). The ratio of staff per patient was 4-5. The total output of health center service activity was between 4.207 to 28.056 patients per annually.

Conclusion: The health staff need was to increase numbers and types of health staff. The infectious diseases were the big problem and become even more difficult to solve since the chronic disease also a new problem of the community at the rural area.

SP-014

Fauna Succession on Monkey Carcasses in Buried Condition in Forested Area, Ulu Gombak, Selangor State, Malaysia

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A forensic entomological study was conducted to study the post mortem interval (PMI) of buried carcasses in forested area. The study was conducted in Wildlife Research Centre of University of Malaya located in Ulu Gombak, Selangor, Malaysia. Monkeys (*Macaca fascicularis*, Raffles) were used as a model for human decomposition in this study. Initially, the monkey was euthanized by the Department of Wildlife and National Parks (PERHILITAN) of Peninsular Malaysia, Ministry of Natural Resources and Environment Malaysia. The study protocol was approved by Institute for Medical Research's Unit of Animal Care and Use Committee [ACUC/KKM/02(2/2008)]. After death was confirmed, the monkey carcasses were immediately clothed to simulate human cadavers. The monkey carcasses were buried in a well [2 ft (width) x 3 ft (length) x 3ft (depth)] and covered tightly to simulate cadavers being buried in the ground. The carcasses were monitored daily until no more larvae and body remains were observed. A total of 2 replicates were used. No flies were observed inside and around the well on the first 3 days. On Day-2 (Fresh), ants were observed attracted to the bloodstain of the carcasses. On Day-5 (Bloating), 3rd instar of *Hypopygiopsis* sp., *Chrysomya pinguis* and *Chrysomya chani* larvae were recovered. From Day-6 (Bloating / Decay) to Day-15 (Remains), larvae of *Hypopygiopsis* sp., *Ch. pinguis*, *Ch. chani*, *Ch. villeneuve*, *Ch. rufifacies*, *Fannia* sp. and sarcophagid were recovered. This study indicated that PMI was delayed at least 1 day on carcasses in buried condition.

SP-015

Effect of Different Length of Life Expectancy on Time Trade-Off and Standard Gamble after Traumatic Spinal Cord injury

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Purpose: This study was to evaluate the effect of different length of life expectancy on health utility, measured by time trade-off (TTO) and standard gamble (SG) methods in patients with traumatic spinal cord injury (SCI).

Methods: Patients with SCI were recruited in a 5-year period of from July, 1999 to June, 2004 by reviewing hospital records of 5 medical centers, with codes of International Classification of Diseases. Of 713 subjects who were registered, 270 completed the telephone interview. A structured questionnaire was used to collect demographics, injury-related characteristics, risk-taking propensity, TTO and SG. The TTO and SG were evaluated under three conditions of life expectancy of 10, 20 and 30 years, respectively.

Result: TTO values were significantly different among the three conditions of life expectancy and they were lower at longer life expectancy than at shorter life expectancy. On the other hand, SG values were not significantly different among the three conditions of the life expectancy. When the life expectancy increased from 10 years to 20 years, subjects who were young people, sustained injury less than one year, and had lower risk taking levels were significantly association with lower TTO values. When the life expectancy increased from 20 years to 30 years, higher Injury Severity Score values were independently associated with more changes in TTO scores.

Conclusion: Our study suggests that proportional trade-off assumption for the TTO is violated. On the other hand, SG values may be indifferent between different lengths of life expectancy.

SP-016

Application of Brain Tissue Oxygen Monitoring in Patients with Traumatic Brain Injury

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Purpose: The applications of brain tissue oxygen monitoring system in traumatic brain injury have reduction of mortality rate and improved patient outcome.

Method: This retrospective randomized-controlled clinical trial from January 01, 2008 to May 01, 2009. All subjects are moderate-severe traumatic brain injury patients with GCS 3-12, age greater than 17 years old, admitted to neurological critical intensive units in 6 medical centers. Case group used brain tissue oxygen monitoring system and intracranial pressure monitoring system Control group use only intracranial pressure monitoring system

Result: There are 60 patients included in this trial. (43 males and 17 females) Case group consists of 20 patients with mean age of 49.8 ± 24.1 years. Control group consists of 40 patients with mean age of 51.4 ± 21.5 years. This study shows when there is pulmonary complication in traumatic brain injury patients, continue use of brain

tissue oxygen monitoring system to adjust FiO₂ to increase PaO₂ thus maintain PbtO₂ can effectively preserve and improve pulmonary function. The mortality rate is 10% for the case group which is significantly lower than the control group with mortality rate 35% ($P < 0.05$). Evaluation of GOS/GOSE 6 months after the injury shows (67%) have better prognosis than the control group (35%). There is 32% difference between case group and control groups ($P < 0.05$).

Conclusion: Patient with brain tissue oxygen monitoring system continuously monitoring all parameters to maintain pulmonary function have better results on reduction of mortality rate and improved functional outcome.

SP-017

Preference Survey Results in Our Hospital

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Purpose: To aim at providing such solid food services that inpatients enjoy their meals and nutritious diets help early recovery from their disease, the following items were surveyed: quantity and quality of the meal on August, 2008, and usage of the dining hall and the tea dispensers installed in the hall.

Method: Subjects were all hospital wards of inpatients who were allowed to eat.

Results: There were 158 questionnaire sheets collected. The meal under this survey consisted of the followings: seasoned rice, deep-fried sliced eggplant for the main dish, vinegared salad for the side dish, and pickled, fruit, jelly or juice for the additional side dish. Focusing on respective wards, it was significant in the surgery ward that the percentage of the patients who ingested one third of the amount of the staple diet was largest. In addition, significantly more surgical patients remained the main dish than patients in other wards. In the pediatrics and internal medicine departments, there were significantly more patients who did not eat the side dish. Regarding occupancy rate, about 60 percent of patients used the dining hall and about 90 percent used the tea dispensers. **Discussion:** The surgical patients ingested a little. We will continue to visit the ward frequently and keep communicated with the patients, their families, doctors and ward nursing staff to improve trophic conditions of the patients. They say that seasonally changing tablecloths and decoration in the dining hall creates good atmosphere. We continue to provide what patients are pleased at.

SP-018

Improving the Performance of Claims-Based Comorbidity Measures in Predicting In-Hospital Mortality

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Background: Comorbidity is an important controlling factor in health services research using administrative data. Our aim was to improve the performance of various claims-based comorbidity measures in predicting in-hospital mortality.

Methods: Five different comorbidity measures, including three different adaptations of the Charlson comorbidity index (CCI), one method developed by Elixhauser et al., and the Chronic Disease Score (CDS), were selected for investigation in this retrospective cohort study. New empirical weights were derived from Cox's regression models of all inpatients in 2001. The performance of comorbidity methods with new weights was validated and compared using the c-statistics derived from multiple logistic regression models among each of the following inpatients in 2002: AMI (n=8,961), type 2 DM (n=32,687), and CHF (n=15,972).

Results: We derived new weights for five comorbidity measures from 1,214,014 inpatients in 2001. For all the adaptations of CCI, some comorbid conditions had smaller weights than the original weights, such as rheumatologic disease, ulcer disease, hemiplegia or paraplegia, and AIDS, while dementia had larger weight than the original. The empirically derived weights of the CCI and the Elixhauser method outperformed than the methods with the original definition among each of study populations in 2002.

Conclusions: The findings of this study have indicated that CCI should be reassessed in cohorts with larger sample size. The empirically derived weights of CCI performed better than the original one, and suggest that the new weights should be used in further researches.

SP-019

The Association of Weight Status and Sedentary Time with Diagnosed Asthma and Respiratory Symptoms in Taiwan

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Objectives: The study aimed to evaluate the association of weight status and sedentary status with asthma and respiratory symptoms (RS) in schoolchildren in Kaohsiung, Taiwan.

Method: A questionnaire study elicited episodes of RS and data on lifestyle and anthropometric parameters in 1329 5th grade schoolchildren.

Results: Results showed that 12.4% of boys and 9.5% of girls had physician-diagnosed asthma whereas 15.1% of boys and 12.4% of girls had suspected asthma. Boys experienced more non-exercise-induced RS than girls ($P<0.05$). The number of RS was positively correlated with TV-watching time per day and self-reported sedentary time per weekend-day in girls ($P<0.05$).

Underweight was positively associated with one of the seven RS in girls ($P<0.05$). At risk of overweight was positively associated with two of the seven RS in boys and one of the seven RS in girls (all $P<0.05$). The risk of having physician-diagnosed asthma and suspected

asthma increased 93% and 72%, respectively, in schoolchildren at risk of overweight ($P<0.05$).

Overweight was associated with a 78% increase in physician-diagnosed asthma ($P<0.05$). Higher sedentary time was significantly associated with more occurrences of one of the seven RS in girls ($P<0.05$). Higher body mass index was significantly correlated with longer TV-watching time per day in girls and longer self-reported sedentary time per weekday in boys ($P<0.05$).

Conclusion: Schoolchildren who are at risk of overweight or overweight and/or have more sedentary time have increased risk of RS and asthma. Weight and sedentary statuses of schoolchildren can impact on their respiratory health.

SP-020

Survival Analysis of Different Treatments in Patients with Advanced Oral Cavity Cancer from Administration Database in Taiwan

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Background: Oral cavity cancer has become one of the main causes of cancer-related deaths in Taiwan. Most cases of oral cavity cancer are squamous cell carcinoma, diagnosed at stage III/IV. Besides of operation, "radiation therapy (RT)" or "concurrent chemoradiotherapy (CCRT)" are usually performed after surgical treatment. Several studies have discussed the prognosis of the patients under different treatments in western countries. However, there are few studies concerning the territory in Taiwan. This study is to explore this issue further by using the secondary databases of government.

Objective: To explore the RT or CCRT effect on the survival condition among patients with advanced oral squamous cell carcinoma.

Methods: A historical cohort method is adopted to conduct the study. After identification of newly operated advanced oral cavity squamous cell carcinoma from Taiwan Cancer Database (TCDB), the information will connect with the census registry, mortality registry and databases of the Bureau of National Health Insurance (BNHI) in 2004. The Cox's proportional hazard regression was used to analysis the survival rate after adjusting the patient and hospital characteristics.

Results: The study will show the utilization and survival of patients with oral cavity squamous cell carcinoma after receiving post-operational radiotherapy or concurrent chemo radiotherapy in Taiwan.

SP-021

The Association of Obesity, Hs-CRP and Gene with Adult Asthma and Prognosis in A Hospital-Based Case-Control Study

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Previous studies suggested that there is an association between obesity and asthma, also indicated that adipose tissue from obese individuals expresses a number of proinflammatory molecules, such as CRP, which is considered to induce asthma symptoms. But the mechanism is still unknown. The CRP gene SNP is thought to be related to inflammation diseases. Our study is the first to discuss CRP gene and asthma. We determined the relationship between obesity, hs-CRP level and adult asthma. We also analyzed the risk of obesity, high levels of hs-CRP and interaction of CRP gene and obesity on asthma. This is a hospital-based case-control study. We enrolled 473 adult asthmatic patients from two hospitals in Taiwan and with 473 community-based controls. A significant association between obesity and asthma has been found. After controlling for confounding factors, the risk of BMI, WHR, waist circumference(WC) on asthma are 3.05, 3.20, 2.83. And the asthma risk for compared quartile 4 to 1 of hs-CRP level is 2.04. The interaction effects between CC genotype and central obesity with WHR and WC were 7.22 and 5.77 of OR on asthma compared to the CT/TT genotype and the normal weight group. The results show that obesity and high levels of hs-CRP could increase asthma risk. We didn't observe that obesity and hs-CRP are related to lung function, medication use or asthma severity. The interaction effects between SNP rs1205 CC genotype and obesity on asthma were observed.

SP-022

Survival Analysis of Embolization with or without Radiotherapy in Patients with Hepatocellular Carcinoma from Administration Database in Taiwan
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Background: 90% of liver cancers are hepatocellular carcinoma(HCC) in Taiwan. Transcatheter arterial embolization /Transarterial chemoembolization (TAE/TACE) is widely used in the treatment of unresectable hepatoma. For the tumor grown in the capsule, TACE/TAE with radiotherapy is used to eradicate the residual tumor cell to avoid the high recurrence rate in literature reports. However, there is a lack of reporting outcome of TACE/TAE with radiotherapy in the patients with hepatoma based on secondary database of government.

Aim: Comparison survival between TACE/TAE alone and TACE/TAE combined with radiotherapy for hepatocellular carcinoma.

Method: A historical cohort study was adopted to conduct the study. After identification of newly

diagnosed hepatocellular carcinoma from Taiwan Cancer Database (TCDB), the information will linked with the census registry, mortality registry and databases of the Bureau of National Health Insurance (BNHI) in 2004. Then, the patients are divided into 2 groups— group A with TACE/TAE alone and group B with combined therapy of TACE/TAE and radiotherapy. The Cox's proportional hazard regression was used to analysis the survival rate after adjusting the patient and hospital characteristics.

Results: The study will show the survival of patients with hepatocellular carcinoma receiving TACE/TAE alone or TACE/TAE combined with radiotherapy in Taiwan.

SP-023

Estimations of Allele and Haplotype Frequencies of the HLA-A, HLA-B, and HLA-DRB1 LOCI Based on the Marrow Donors of TCTMDR

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Until 2005, a total of 56176 unrelated healthy Taiwanese individuals from the BTCSCC (Buddhist Tzu Chi Stem Cells Center) were typed for HLA-A, -B, -DRB1 at allelic resolution. In this study, we estimated the HLA allele and 3-locus haplotype frequencies among the majority of Minnan, Hakka, Mainlander and Aborigines ethnic groups in Taiwan. We found 51 HLA-A alleles, 121 HLA-B alleles and 53 HLA-DRB1 alleles in Taiwanese population. The heterogeneous exists among four different ethnicities. Take HLA-DRB1 for example, the most frequent HLA-DRB1 alleles in Minnan and Hakka were DRB1*0901 (15% and 16%) and DRB1*0301(both of 11%). In Mainlander, the most common HLA-DRB1 alleles were DRB1*0901(16%) and DRB1*1202(10%). For Aborigines, the most frequent HLA-DRB1 alleles(12%) were DRB1*1101 and DRB1*1454. 3-locus haplotype frequencies estimated by the Expectation-Maximum method. For Minnan, Hakka and Mainlander, the first two common haplotypes were A*3303-B*5801-DRB1*0301 (>5.7%) and A*0207-B*4601-DRB1*0901 (>4.3%). In Aborigines, A*3401-B*5601-DRB1*1502 (5.8%) was the top one haplotype which rarely occurred in other three groups. These results revealed high diversity of HLA alleles and haplotypes among the four ethnic groups in Taiwan. Principal component analysis and clustering analysis based on HLA allele frequencies suggested that Minnan, Hakka and Mainlander were more genetic homogeneous while the Aborigines is a characteristic group.

SP-024

A Survey of Outcome of Bariatric Surgery
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Bariatric surgery is a popular service for the weight reduction. This research intends to analyze demographic characteristics of bariatric surgery patients and effects in changing BMI (Body Mass Index). Secondary data is derived from patients' pre-operation assessment information from a regional hospital in southern Taiwan. The total number of study subject is 194 patients receiving bariatric surgery, which included 27 male and 167 female. The average age is 32.34 years old. The major group of occupation could not be identified from the data (45.4%) and the next occupation group is student (18%). More than half of their education level is above college (56.2%). Most of study subjects have no children (66.5%). 34% of study subjects express that they gained weight before 12 years old. Most patients have experiences in trying any mean to reduce body weight (77.8%). 56 study subjects (28.9%) had diseases related to obese. 143 study subjects (73.7%) have the family medical history. One or both of their parents are obese (57.7%). The average pre-operative BMI of study subjects is 38.27. The average percentage change of BMI at post-operation follow-up in first, third, sixth, and ninth month decreases by 9.4%, 18%, 29%, and 32% respectively. Among three different types of bariatric surgery, laparoscopic Roux-en Y gastric bypass shows better effect in reducing BMI. The result provides brief information of effects and patient characteristics of bariatric surgery for evaluating a new medical service in health service market.

SP-025

Sexual Risk Behaviors among Undergraduate Students in Nakhon Ratchasima Province, Thailand **Tanida Phatisena**

Dr. Samnao Phatisena, Thailand

The purposes of this research were to study sexual risk behaviors among undergraduate students, Nakhon ratchasima province, and to study the related factors that caused sexual risk behaviors of the target students. The samples were 397 students in academic year 2008 which were drawn by multistage random sampling. The instruments for data collecting were chick-list questionnaire and percentage had been used. It was found that 56.4 percent of the samples had sexual relation. About 31.7 percent of them had their first sexual relation between 16-18 years. Most of them about 90.6 percent were their lovers or their boy/girl friends and 74.1 percent want to make relationship. Their first sexual relation without condom was 34.4 percent. Sexual relation with more than one partner was 73.7 percent. Sexual without condom together with alcoholic drink were found about 70.4 percent. There were three socio-psychological factors that caused sexual risk behaviors. Firstly, the family relation factor. Male samples of 35.2 percent did not make any consultation on sexual matters and 36.6 percent female samples consult their parents. Secondly, the influence of peer group factor. About 72.8 percent of the samples did not

consult with close persons and 62.6 percent were invited to visit the sex service houses. Finally, the social behavior factor. They learned about the sexual relation from C.D. and videos, internet, and T.V. approximately 63.5, 61.7, and 59.3 percents respectively.

SP-026

Sexual Behaviour, Knowledge, and Attitude of Adult at Makassar City, Indonesia

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Objectives: The aim of the study was to observed the sexual health behaviour, knowledge and attitude of adult (15-25 years old), which very much related to the health prevention and promotion especially to sexual transmitted diseases (HIV-AIDS, Syphilis, Gonorrhoe, Clamedia).

Method: The study was a survey descriptive, conducted in April to Mei 2008 at five sub-districts, five villages, and 5 sub-villages within Makassar city, involving 100 adult samples. **Results:** 51% of the sample understand very well about the sexuality, 79% watched blue-movie, 60% masturbated or onani, 89% have boy or girl friend, 19% have sexual relationship which 76% out of them with girl or boy friend. Although 88% of the sample do not agreed with free sex, but 23% of them have ever got syphilis.

Conclusion: the sexual behaviour of youth in Makassar was very risk to get sexual transmitted diseases, such as HIV-AIDS, Syphilis, Gonorrhoe, and Clamedia.

SP-027

Body Weight Perception and Risky Slimming Behaviour of University Freshmen

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Background and Objective: For many young people, the desire of having a slimmer body distorts their perception of a healthy body weight. It also triggers the attempt to many risky slimming behaviours. This study aims at exploring the body weight perception among university freshmen in Hong Kong and the prevalence of using risky slimming behaviours. **Study design** Cross-sectional survey.

Method: Anonymous questionnaire was given randomly to entrants of a comprehensive university via admission package. During the compulsory health check, students returned their questionnaire which was cross-checked onsite. Body weight and height were measured using standardized method during the same occasion.

Results: A total of 1228 (53.8% female) students successfully completed the questionnaire. Among female students who were trying to lose weight, 78.4% of them were actually on the Normal (70.2%) and Underweight

(8.2%) weight categories. For those female students who perceived themselves as overweight, 66.4% of them were actually on the Normal (64.8%) and Underweight (1.6%) categories. Substantial proportion of these students were using inappropriate methods of losing weight include dieting (64.2%), skip meals (27.5%), popular diet regime (10.9%) and diet plan from the Internet (4.9%). Some of them had experiences of risky slimming method include fasting, over-the-counter drugs, meal replacement and self-induced vomiting. Conclusion: This study revealed a majority of university entrants have had wrong concept of healthy body weight despite their education attainment. Inappropriate and risky slimming methods were frequently practiced by this group of people.

SP-028

Health-Related Risk Perception among University Students in Sri Lanka

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Introduction: Public health depends on how laypeople perceive health-related risks. Individual differences in risk perception are related to regional, ethnic, socio-economic or gender distinctions. The purpose of the study is to understand how the university students in Sri Lanka perceive health-related risks such as infectious diseases and other socio-environmental events. **Methods:** 1,774 university students were asked to identify the risk level of nineteen health-related risks with a four-point likert scale in two different situation: for individual and for society. The difference between risk perception for social and individual was analyzed using chi-squared test. T-test was used to examine the effect of socio-demographic variables on perceived levels of risks.

Results: Bomb blast was perceived as the most serious risk for both social and individual: the mean score was 2.53 and 1.98, respectively. In contrast, snake bite was the lowest for social and HIV/AIDS for individual. Social risks were significantly higher than individual ones in all 19 listed items ($p < 0.05$). In addition, socio-demographic variables were associated with level of risk perception. Male had statistically higher risk perception than female, and students of Science faculties than Arts.

Discussion: There was higher risk perception for society than individual. It indicates that people tend to believe they are less at risk than the average person of society. In addition, socio-demographic variables had a significant influence on risk perception. It is desirable to take these characteristics into account when developing a school health strategy.

SP-029

Bachelor of Science in Health Promotion and Disease Prevention Studies

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University of Southern California, USA

Issues Since its founding in 1997, the Health Promotion and Disease Prevention Studies program at the University of Southern California has sought to improve public knowledge of public health issues, create a stronger public health workforce, and provide public health training to future clinicians. This paper describes the structure and mission of our program, the lessons learned about undergraduate public health education, and future plans for the program. **Description** The Health Promotion program is designed to provide undergraduate students with a critical, holistic view of health to broaden their understanding of public health and healthcare. Students learn about the socio-cultural, behavioral, psychological, economic, and biological factors that contribute to wellness and disease. Our program serves all students with professional interests in health. In addition to the HP major, the department offers six minors and three progressive degree programs in which students enroll in graduate courses while pursuing their undergraduate degrees. Program administrators have recently developed a Bachelor of Science in Global Medicine, an interdisciplinary major that focuses on understanding and investigating the factors that determine global health. The B.S. in Global Health is ideal for students who wish to work abroad in the future, as well as students who are interested in pursuing international relations and global policy issues with a focus on health and healthcare. Lessons learned Alumni have become physicians, dentists, pharmacists, researchers, health educators, lawyers, and health reporters, as well members of other professions. Many describe the program as valuable for the knowledge and perspective it

SP-030

Master of Science in Global Medicine Program

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Launched in 2008 by the Keck School of Medicine, the Master of Science in Global Medicine (MSGM) program addresses the urgent, worldwide need for training in global medicine among health professionals. This paper describes the structure and mission of our program, lessons learned about the needs of a global medicine education, and future plans for the program. **Description** The MSGM curriculum teaches students to analyze and address issues in global medicine, focusing on methods used to create solutions and responses to global health challenges. Students gain a strong medical science foundation as they focus on such topics as malaria, tropical disease, HIV/AIDS, and maternal and child health. The program is useful for students interested in

medical school, public health, or other areas of health outreach. The department offers the MSGM program as a progressive degree option for students in the Health Promotion and Disease Prevention Studies undergraduate program at the University of Southern California. Lessons learned In May 2009, the MSGM program graduated its first cohort of students. Most graduates had taken their MCAT tests and applied to medical school. Some graduates had plans to join the workforce in the health sector or in government agencies focusing on public health. Next steps The MSGM program continues to expand its course offerings and has experienced increased enrollment. Clearly there is a significant demand for professionals with global medicine perspectives, from medical schools, employers, and government agencies, and the MSGM program is positioned to continue training students to meet that demand.

SP-031**The Efficiency and Effectiveness of Computer-Assisted Instruction “Fun with Nutrition” for Prevention of Childhood Obesity**

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The purpose of this quasi experimental research was to study the efficiency and effectiveness of a computer-assisted instruction (CAI) entitled “Fun with Nutrition” which was designed to prevent childhood obesity for grade 5th students. The research consisted of two groups and a pre and post test design. The sample was comprised of 247 students (134 in intervention group, 113 in control group), ages 10-12, who were studying at a private school in Bangkok. The intervention group received CAI in 5 chapters: childhood obesity, nutrition guideline, fat and sugar, vegetable and fruit and physical activity. The intervention was done weekly (40-50 minute class) for 5 weeks. Data regarding the characteristics of the students, nutritional status, nutrition knowledge, eating behavior, physical activity and students’ satisfaction with CAI were collected. Independent t-test, paired t-test and Chi-square test were applied for statistical analysis.

The results revealed that students in the intervention group increased their knowledge after using CAI more than control group. But no change in the intervention group was found concerning eating behavior and physical activity. After the intervention, the nutritional status of students in the intervention group showed no significant change. These findings suggest that the CAI was able to enhance learning achievement in students regarding childhood obesity and nutrition knowledge. However, subsequent stimulation by teachers and parents should be encouraged to improve the eating and exercise behavior of children.

SP-032**Student-Led Tutorials: Diversity and Creativity in Postgraduate Learning of Major Public Health Issues in Developing Countries- The MIPH Way!**

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Since the inception of the Masters of International Public Health (MIPH) Program in 2000, the number of international students mostly from developing countries (Pacific Islands, Asia, Africa and Middle East regions) has significantly increased. Currently, nearly half are international students; 70% come from developing countries. Students’ experiences range from highly experienced in the international arena having worked in their home countries/overseas to limited or virtually no working experience. As enrolments dramatically increased in 2003, effective learning tools had to be employed to maximize peer interaction and learning to address the needs of our culturally diverse student populace. Thus, student led tutorials were implemented. In 2000, the MIPH commenced with 13 students. To date, there are 123 students enrolled with about 45% being international students. Each tutorial group of allocated 10-12 students meet for 9 weeks; a student facilitates the discussion based on international public health issues generated from lectures and readings. Creative methods such as debates, problem solving case scenarios, role playing, educational games and mini icebreaker quizzes have been prepared and conducted by the students. This presentation looks at the impact of student-led tutorials in learning major public health issues within a developing country context and describes skills developed outside a traditional didactic method of teaching. It also describes the impact of student-led tutorials on the mentoring process and pastoral support of postgraduate students.

SP-033**Environment and Health Impact of Hot Mud Volcano in the Subdistric Porong, East Java Indonesia**

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Subdistric Porong is located at Sidoarjo regency East Java, Indonesia, 20 km south of Surabaya. The Sidoarjo mud flow is informally abbreviated as Lusi, a contraction of Lumpur Sidoarjo (limpur is the Indonesian word for mud), is an eruption of gas and mud that has been going since May 2006. It is considered to be mud volcano. In the first stage of drilling, the drill first went through a thick clay seam (500-1,300 m deep), then sands, shells, volcanic debris and finally into permeable carbonate rock. At this stage the borehole was surrounded by a steel casing to help stabilise it. A second stage of drilling began and the drill string went deeper, to about 2,834 m (9,298 ft). Unfortunately at that time without a protective casing, after which water, steam and a small amount of gas erupted at a location about 200 m

southwest of the well. During the eruption hydrogen sulphide gas was released and local villagers observed hot mud, thought to be at temperature is around 60°C (140°F). Because of the second stage of drilling without a protective casing, the most likely cause of these hydraulic fractures was unprotective drill string in the second stage of drilling. The impact of these volcano such as physical, biological and health impact. The aim of the research are identification of the impact of hot mud volcano to the community health and environment. Method of the research is the observation study included cross-sectional study. Primary data that are quality of air, hot mud volcano, environmental condition (building status) and health status. Secondary data included health status of the people living in the research area and physical environment condition in the research area. The research analysis by descriptive method. Results of the research are identified symptoms of the H₂S exposure, skin symptoms because of mud contact, respiratory symptoms impact and also the environmental impact included physical and biological impact. The subsidence range 30-100 cm and building disorder is about 22%. Water and Air pollution such as concentration of HC is 55000ppm (standard 0.24 ppm), NO₂ is 0.116 ppm (standard 0.05 ppm), Cl is 2896.63 mg/L (std 600 mg/L), Cd is 0.15 mg/L (std 0.005 mg/L) and Mn is 5.14 mg/L (std 0.5 mg/L). The disease dominated by respiratory infection, neuritis, gastritis, skin infection and diarrhea. Impact of volcano was managed by specific method.

SP-034

Morbidity and Mortality of Multidrug Resistant Tuberculosis in Mongolia

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Introduction: Mongolia is one of the countries with the highest prevalence of tuberculosis in the Western Pacific Region. In the recent years the spread of multidrug resistant tuberculosis (MDR-TB) emerges challenges in TB control in most countries including Mongolia. The aim of this study was to investigate the incidence of MDR-TB since the introduction of drug sensitivity testing in 2003.

Materials and Methods: A descriptive method was used in this study and information regarding the patients were abstracted from official report.

Results: Totally 419 MDR-TB cases (1.6 cases per 10 000 population) have been registered during 2003-2008. More than 60% of MDR-TB cases were reported in capital-Ulaanbaatar city. An average age ($\pm$ SD) was 32.3 $\pm$ 10.9 and people aged 16-44 years were mainly (85.5%) affected with the MDR-TB the majority of whom were men. While only 63 cases (15%) were registered in 2003-2005 the remaining (85%) were reported in the last 3 years, probably due to increase in the incidence of MDR TB as well as better screening.

Only 43% of all MDR TB patients have received treatment whereas 32% died prior to the treatment. High proportion (61.8%) of deaths among MDR TB cases have been reported until 2006 that decreased to 22.3% after opening of the special ward in central TB clinic. **Conclusion:** In conclusion, MDR TB has been increasing in Mongolia and treatment should be started immediately after the drug sensitivity test to prevent from further disease burden.

SP-035

H5N1 Virus and World System Theory: The Case of Indonesia

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World-system theory is a macrosociological perspective that seeks to explain the dynamics of the "capitalist world economy" as a "total social system." The system divides the world (economy) into three zones: core, semi-peripheral, and peripheral countries. Chirot (1986) lists the five most important benefits coming to core nations from their domination of periphery nations: access to a large quantity of raw material, cheap labor, enormous profits from direct capital investments, a market for exports, and skilled professional labor through migration of these people from the noncore to the core. The blood sample that contains H5N1 Indonesian strain could be counted as raw materials that have enormous economic value especially for medical industries. The paper discusses that the case is actually part of the theory in practice.

SP-036

Prevalence and Risk Factors of Intestinal Parasite Infestation among Hilltribe Student

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Mae Fah Luang University, Thailand

A cross-sectional study of prevalent rates, risk factors and re-infection rate of intestinal parasitic infestations among hill-tribe schoolchildren. Target populations were level one to level six primary schoolchildren who attended ten Border Patrol Police Schools in Chiang-Rai province, Thailand. Three hundred and thirty nine subjects were recruited by simple random sampling out of a total population of 2,194 children. All three questionnaires were tested for validity and reliability. Stool specimens were examined qualitatively and quantitatively for intestinal parasites using cellophane-covered thick smear technique. Unconditional multiple logistic regression at $\alpha = 0.050$ method was applied to statistical analyses. **Results:** subjects were 51.92% male, 48.08% female, 31.2% Akha, 30.38% Kmong, 66.08% Buddhist, and 33.92% Christian. Prevalent rate of parasitic infestation was 9.75%, of which 7.97% was from *Ascaris lumbricoides*, 0.88% Hookworms, 0.29% each of

Trichuris trichiura, *Enterobius vermicularis*, and *Taenia solium*. Re-infection rate was 0.00% at one and three months after treatment with a single dose of 2 tablets of albendazole (200 mg). Only one risk factor for intestinal parasitic infections was identified after controlling for confounding factors of age, sex, parents' education levels and occupations; which was the source of the child's household drinking water. Those who drank water from wells had an increased risk of 9.83 (OR_{adj}=8.22 95% CI 0.93-104.12), while those who drank from piped mountain water was 8.22 (OR_{adj}=8.22 95% CI 1.07-63.18) as compared with drinking only commercially bottled water.

It is concluded that an improvement of the quality of household drinking water is essential to the prevention and control of primary schoolchildren attending Border Patrol Police Schools in Chiang-Rai province, Thailand.

SP-038

Risk Factors Tb in South Sulawesi Indonesia 2007

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Lung tuberculosis in Indonesia are predicted 450,000 cases with 175,000 victim. It is predicted that nationally incidence rate is about 130 people with sputum BTA (+) among 100,000 people. Based on Basic Health Research Survey in 2007, it was found that the prevalence of lung tuberculosis was 0.99%, detection rate was 53% of 70% national detection rate that shows the risk of transmitted in community is still high. Aim of the study is to investigate related factor of lung tuberculosis in South Sulawesi province in 2007. It consists of age, sexes, educational background, job, nutrient status, domicile, and smoking habit. The research design is cross-sectional involving 41,641 samples with 110 samples suffered lung tuberculosis. Source of data are the result of Basic of Research Survey, 2007 conducted by Indonesia Health Department. Then data are analyzed by SPSS and statistical test is using Chi square and logistic regression. Base on statistical test it is found high correlation of nutrient status ($p=0.000$) (Exp B = 3,180), age ($p=0.000$, sexes ($p=0.000$), educational background ($p=0.001$), job ($p=0.28$), domicile ($p=0.047$), smoking ($p=0.002$) with the incidence of lung tuberculosis. Suggestion, the prevention and promotion of lung tuberculosis should been improved, particularly on improving nutrient status of community.

SP-039

Brucella Melitensis Antibody Prevalence in Goat Farmers Who Had Contact with Infected Animals in Four Districts of Kanchanaburi Province, Thailand

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Brucellosis is one of the zoonoses caused by *Brucella melitensis* which is related not only with agriculture but also with the public health field. The disease can be transmitted from animals to humans via several routes. Humans who are infected with brucellosis show many signs, symptoms and pathogenesis such as undulant fever, orchitis and abortion. The risk group is persons who have contact with goats, which may be infected with brucellosis.

This study utilized a cross sectional analytic design. The objectives were to find the prevalence and risk factors of *Brucella melitensis* seropositivity in goat farmers from different size farms where positive *Brucella melitensis* was found in goats. The research was approved by the Human Ethical Review Research Committee. Blood samples were collected and tested for related variables. Serum samples were tested for *B. melitensis* antibodies using Rose Bengal Test (RBT), CFT, EDTA-Tube Agglutination Test (EDTA-TAT), Indirect ELISA IgG and IgM against *B. Melitensis*. Univariate by Chi-square and multivariate by multiple logistic regressions were used to analyze data with significant statistical difference ($P\text{-value} < 0.05$).

On 45 farms that were tested, 172 goats were found to be positive. Of the 70 goat farmers that had contact with the animals, 18 tested positive (prevalence 25.71%). Using multiple logistic regression, no significant associations were found between factors associated with positive antibody. However, when using univariate analysis a positive significant ($P\text{-value} < 0.05$) association was found for those who cook goat meat ($P\text{-value} = 0.011$).

Results showed that positive prevalence of *B. Melitensis* in goat farmers in contact with infected goats was two times higher than positive goats. Results of this study will be useful in planning for control and prevention of brucellosis in goat farmers by prevention of infection transmission of the disease from goats to humans.

SP-040

The Limitations of International Health Regulation 2005- The Timeliness Gap of Global Surveillance System

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Objectives: Disease knows no borders. For the increasing awareness of the importance of disease surveillance, prevention and control, the WHO--the preeminent governing body of international health, established the Global Outbreak Alert & Response Network (GOARN) in 2000 to keep the international community alert to the threat of possible outbreaks. Furthermore, the revised International Health Regulations (2005) of WHO went into effect in June 2007 with the aim of enhancing

national, regional and international public health security. However, from the difficult position of Taiwan during SARS caused by political issue which remains excluded from participating in many international meetings reflected the insufficient function of this system. So the object of this study is to identify the limitations of the WHO's GOARN and the implications of the IHR (2005). Method: We conducted a comprehensive survey of outbreak reports from the WHO surveillance system, and matched report from ProMED-mail --an unofficial, non-governmental monitoring system with the aim of providing an early warning system for outbreaks of emerging diseases-- to find the timeliness gap between these two systems. And we further found out the association between democracy and the timeliness gap. Results: The disease outbreak report of ProMED was earlier than of WHO, and the timeliness gap between these two systems was averaged to 10 days. Also, the timeliness was associated with the medical capacity and the democracy level of the nations. Conclusion: Though IHR (2005) try to eliminate the gap of the global infectious disease network, but the limitations of it still remained by the political issue.

SP-041

Estimating Population Size of Endangered Deer TB in Korea

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The Republic of Korea is the country consumes the above 85% of world-wide deer antler production volume. The annual amount of consumption reaches to 1,600 billion won (\$ 1,300 million). The Breeding number was 50,000 in 1990, but it became 150,000 as three times as 1990's, and about 100,000 are bred to recently in Korea. Since bovine tuberculosis was first detected among 22 deer in 2005, 238 were reported in 2008, recently, 159 were reported until 2009 May. The occurrence area is also extended. It is a number which it accomplishes to the 0.25% of whole breeding number. At first, incidence cases were reported from Cheon-buk province (southern area of Korea), however bovine TB in deer has been spread to Gyeong-gi province (the central area of Korea). The deer is maintenance host of the bovine TB (*Mycobacterium bovis*) which is a zoonotic infectious disease. Consequently, the deer tuberculosis can infect human through oral/ gastrointestinal transmission by ingestion of deer antler and deer blood or respiratory/ cutaneous transmission to veterinarian and farmer. Particularly, the death cases from TB (respiratory TB and other TB) was suddenly increased from 2000 to 2002, when the deer breeding number also reached the peak. For these reason, the purpose of this study is to estimate the endangered population of TB infection in Korea from the correlation between TB incidence and ingestion of deer antler and deer blood.

SP-042

Tooth Loss and Associated Factors in Urban Khon Kaen Thai Adults

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Tooth loss is an important oral health problem affecting Thai people and people of other nations as well. Not much of epidemiologic evidence concerning factors associated with tooth loss among Thai people has been reported although severity of tooth loss among Thai people still exists. This study evaluated relation between tooth loss and several variables among the Thai people residing in Khon Kaen Province, Thailand during the year 2006. The study subjects included 858 males and 303 females, aged 18-72 years, who volunteered to take part in the study. The data were obtained through oral examination and interview. Results were employed by means of descriptive, bivariate, and multivariable Poisson regression analyses. The results showed that approximately 53.2 per cent of people experienced one or more tooth loss. Findings from the final multivariable Poisson regression model showed that decayed and filled teeth, systemic disease, older age-group, female gender, higher education, higher income, occupation (military recruits) and the interaction between gender and income were significantly related to tooth loss, with the odds ratio (95% CI) being 2.04 (1.74, 2.42), 1.16 (1.01, 1.33), 2.27 (1.78, 2.93), 0.65 (0.52, 0.80), 0.90 (0.84, 0.95), 0.47 (0.31, 0.71), 0.13 (0.09, 0.20) and 1.42 (1.09, 1.86) for decayed and filled teeth, systemic disease, older age-group, female gender, higher education, higher income, occupation (military recruits) and the interaction between gender and income, respectively. The findings highlight importance of several factors relating to tooth loss. Therefore, implementation of the community programs based on this evidence may be achieved to reduce tooth loss in the population.

SP-043

The Impact of Oral Health on Daily Performance among 10-12 Year-Old School Children in Mangalore Ashish Shrestha¹, Jyotsna Rimal¹, Ashwini Rao², Peter Sequeira³, Ramya Shenoy²

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Background: Primary school children represent the major focus of dental public health research and practice. It is necessary to assess the characteristics and severity of impacts of oral health in primary school children as well as to identify subgroups of children with oral health needs in terms of prevention, treatment and oral health promotion. The aim of this study was to assess the impact of oral health on daily performance among 10-12 year-old school children in Mangalore.

Methods: A cross-sectional study was conducted in primary school children of the municipal area of Mangalore, using the Child-Oral Impact on Daily

Performance (Child-OIDP) instrument and WHO Oral Health Assessment Proforma (1997) to assess the impacts of oral health on daily performance. Results: 55.4% of children had one or more oral impacts. The overall mean impact score was 3.15 ± 4.4 . The extent of impact varied from 1 to 4 performances with impacts. Impacts on eating were the most prevalent (56.8%), followed by cleaning teeth (45.1%). The impacts were mostly very little (35%) and moderate (34%). The more prevalent problems leading to impacts were tooth decay (62.7%), toothache (53%), sensitive tooth (40.7%), bleeding gums (40.7%) and exfoliating primary teeth (34.8%). Oral conditions that related to appearance also frequently affected children. Conclusions: The study reveals that impacts of oral health on daily performance were prevalent, but not severe. The impacts were mainly related to difficulty in eating and smiling. Toothache, oral ulcers and natural processes contributed largely to the incidence of oral impacts.

SP-044

The Measurement of Service Quality in Primary Dental Care

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In addition to the pressure from National Health Insurance, the healthcare sector in Taiwan is facing unparalleled challenges in an increasingly customer oriented environment. Service quality has become a watchword in dental services because of increasing competition and more demanding patients. This study aimed to explore the primary dental care quality and to identify the association between these variables. Totally 404 patients from 2 primary care clinics of a famous dental alliance were selected for interview. Dental service quality was based on the concept of SERVQUAL and modified by referring other dental service literatures.

Self-administrated questionnaire including the expectations, perceptions of primary care quality, the gap of each item was calculated by the difference between perception and expectation. According to factor analysis, dental service quality been divided into 7 domains named as professional competence, reputation of dentist, location access, tangible environment and service delivering, attitude of staffs, cost, and time convenience; satisfaction and loyalty both showed single domain. As the results, professional competence was the largest gap among these 7 domains of service quality, but reputation of dentist, location access, tangible environment and service delivering were "positive" gap showed that the perception levels were higher than the expectation levels. The literature refers to "positive" gaps as super-pleasing the customers, or delivering superior performance. It may be worth considering moving some levels of

investment and effort away from the "positive" gap to those where really service quality gaps exist in order to bridge gaps.

SP-045

Prenatal and Perinatal Factors and the Risk of Oral Clefts Defects: A Population-Based Cross-Sectional Study in Taiwan

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The objective of the present study was to assess the effect of prenatal and perinatal factors on the risk of oral cleft defects (OCs). We conducted a population-based cross-sectional study of 1,138,605 Taiwanese births in 2001-2005 using information from the Birth Registry. Although the quality of prenatal care was good and free in Taiwan, small gestational age (<37 weeks), low birthweight (<2500 g), and low 5-minute Apgar score (<7) are more frequent among newborns with OCs than in Non-OCs. In multivariate logistic regression analysis adjusting for maternal age, parental education, annual average incomes, and conception of season, the risk of OCs were associated with anemia (adjusted odds ratio 2.17, 95% confidence interval: 1.39, 3.38), and diabetes (2.71, 95% CI: 1.29, 5.71), amniocentesis (2.20, 95% CI: 1.57, 3.09), induction of labor (3.64, 95% CI: 2.33, 5.66), and stimulation of labor (1.44, 95% CI: 1.20, 1.74). This large population-based study suggests that prenatal and perinatal complications in the pregnant women may increase the risk of OCs.

SP-046

The Relationship between Oral Health Status and Nutrition Intake in the Elderly

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Introduction: As the health-related factors, the oral health status in the elderly has been reported to affect the nutrition intake. Besides, the health status of gingival, tooth missing and the denture status have also been reported to have a higher degree of the poor nutritional status. Attempts were made to analyze the status of nutrition intake depending on the oral health status in the elderly aged 65 years or older nutrition intake.

Methods: The correlation between the subjective problems with the mastication and the status of prosthesis in the elderly was analyzed using a logistic regression analysis. The correlation between the status of prosthesis and the amount of nutritional intake was analyzed using a regression analysis.

Results: This showed that the elderly who had a complete or a partial denture implanted perceived a significantly higher degree of the masticatory problems

than the elderly who had a dental bridge implanted (1.67 CI 1.07, 2.59). Particularly regarding such nutrients as protein, calcium, fat and vitamin b1, the degree of nutritional intake was significantly lower ($p < 0.05$). Discussion: By examining whether such causative factors affecting the oral health as the frequency of dental visits and toothbrushing are associated with a poor oral health status in the elderly.

Conclusions: Particularly regarding such nutrients as protein, calcium, fat and vitamin b1, the degree of nutritional intake was significantly lower.

SP-047

Equity in Healthcare: Share of Out of Pocket Costs in Sri Lanka

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Introduction: Disputing the claim, “free-state health services”, half of total health expenditure is estimated to be out of pocket in Sri Lanka. Hence, as a measure of equity, paper focuses on out of pocket expenditure in first contact care services in Sri Lanka.

Methods: A cross sectional study was conducted in a rural district where medical pluralism is long established. A total of 2221 patients attending 8 state-Western facilities, 4 state-Ayurveda facilities, 10 private Western facilities and 8 private-Ayurveda/traditional practitioners were identified using a probability sampling method. “Out of pocket cost” was obtained using an interviewer administered questionnaire.

Results: Total median cost incurred was highest in the private Ayurveda facility (SLR.224, range 0-1500) followed by private western (SLR. 180, range 0-1000). Patients attending both state western (SLR.22, 0-410) and Ayurveda facilities (SLR.30, 0-1090) also had to incur costs in obtaining services. The median cost for transport of the patients (SLR. 36, range 0-800) and consultation fees (SLR.130, 20-430) were highest in private Ayurveda facility. For purchase of drugs, patients in private western facility incurred highest median cost (SLR.80, range 3-800). The incidental expenses were highest at private Ayurveda (SLR.40, 12-100).

Conclusions: The findings indicate that a country where one third of the population living below the official poverty line had to incur a substantial amount on health. Seeking Ayurveda/ traditional care was more costly than western care, curtailing the ability to fallback on traditional system when necessary. This highlights the need for new buffer mechanisms to establish equity in health.

SP-048

Health Equity Vis-a-Vis Health Communication Strategies in a Decentralized Health System in India

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Objective: To assess the equity sensitiveness of health communication strategies of health programs vis-a-vis vulnerable groups in the state of Orissa, India

Methods: We reviewed the planning (identification of the communication needs of vulnerable groups), delivery (content, language and medium) and review of communication strategies of government health programs (under National Rural Health Mission) during 2008-09. We selected various disease control programs (for tuberculosis, malaria, HIV, blindness and leprosy), and reproductive and child health program.

Results: Since communication strategies are catalyst for different health programs, they cater to only those vulnerable groups or issues of vulnerable groups addressed by each health program. For example, since malaria control program has a specific focus on pregnant women and children, there are specific BCC strategies for such groups. Apart from AIDS control program, there is no information needs assessment for the vulnerable groups. Though there is use of local dialects, it is not addressing all the linguistic groups.

Conclusion: Though communication strategies are equity sensitive, they are not comprehensive enough to address all the vulnerable groups. In order to ensure health equity, communication strategies should be easy to understand, acceptable and accessible to all the vulnerable groups. Also, there needs to be community participation in identifying the information needs and review of various communication strategies vis-à-vis vulnerable groups.

SP-049

Better Understanding Better Care: A Study on the Relationship of Health Literacy and Patient Right **Hsin-Hua Lee¹, Fen-Ju Chen²**

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Under the current environment that emphasizes patient safety, the public certainly have to be with the ability of identifying and reading health information in order to spontaneously select the decisions or behaviors that benefit health. For that reason, the health literacy of the public has to be enhanced for the improvement of the knowledge of patient right. This study aimed to explore the relationship between the level of health literacy and understanding of patient right. The relationship between the level of health literacy and understanding of patient right of the interviewed public was explored through the structured questionnaire. A total of 402 effective questionnaires were returned. The study results showed that age, education level, and the medical background of the public or public's family were the important factors that influenced the level of health literacy or understanding of patient right of the public. After the demographic variables of the public were controlled, the results suggested a trend that the higher health literacy level the better understanding of patient right. As patient safety and patient right are being promoted all over the world, to help the public perceive and understand patient

right, the government shall value and strengthen the policies that are meant for the health literacy of the public. Moreover, the public that value patient right would monitor in the medical process in helping decrease medical mistakes, deduct medical cost and create a three-win situation for the public, hospitals and clinics, and National Health Insurance.

SP-050

Growing a Network of Mutuality: The University's Role in Global Health

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Contemporary permutations of international public health have evolved to encompass a greater understanding of the major health determinants as truly 'global' phenomena. Increasingly, there is recognition that, in the words of Martin Luther King Jr, "We are caught in an inescapable network of mutuality, tied in a single garment of destiny. Whatever affects one directly affects all indirectly" A growth in student numbers and interest in professional development training in global health has been observed in New Zealand as it has elsewhere. Media representations and scholarly articles addressing issues of global health interest may have contributed to a greater awareness of global health. Similarly, the increase in high profile philanthropic aid to global health has played a role. A critical awareness of the impact of globalisation on inequalities in wealth and health resonate with medical, science and arts students alike. Universities are now ideally positioned to contribute to the advancement of global health, not only through advancing a global perspective on their subject, but more directly to engage in a mutually beneficial way with health systems and institutions in low and middle income countries where resources and capacity are more limited. This engagement may take the form of exchange programmes, collaborative research projects, academic supervision and advanced training to contribute to capacity to improve health outcomes. In this paper we reflect on our experiences to date and consider how academic institutions such as ours may best contribute to health improvement in low and middle income countries.

SP-051

Medical Utilization of Low-Income Families in Taiwan's National Health Insurance

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On the medical utilization of low-income families in Taiwan's National Health Insurance, in terms of the attendance rate, the number of medical treatment, hospitalization days and medical expenses. Their medical uses are then compared with those of an average insured

person one by one, particularly, on five major injuries and chronic diseases such as cancer, renal dialysis, mental illness, diabetes and high blood pressure. Major results show that overall utilization rate of low-income families is 81.39% that is less than other higher income groups by 13.6%. Among various low-income groups, women use more than men; young population have the highest utilization rate, while the old population over 65 have the lowest utilization rate and keeping decreased with the age increasing. Though low-income families have less out-patient utilization, 80.79%, than other higher income groups by 14.2%, their hospital utilization rate of 14.11% is much higher than other higher income groups by 8.54%. Conspicuously, their ratio of psychiatric hospitalization are 39.24% higher than other higher income groups level. Patient choices among different hospital levels are also quite different. Nearly half of the low-income families select regional hospitals for inpatient care. The prevalence rate of suffering from major injuries for low-income people is 3.08 times of the other higher income groups, while the rate of chronic diseases is about 1.1 times. The over all finding show that low-income families have high medical need but still lack of access to realize necessary medical treatments.

SP-052

Socioeconomic Status in Overweight: A Study Based on the Survey of Social Development Trends in Health Security in Taiwan

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Objective: With diet habit change and lifestyle drift towards stationary state, the body mass index of people is increasing. The studies in Western society showed that people with low socioeconomic status have higher body mass index than higher one. It is worth to investigate the association between socioeconomic status and overweight in Taiwan.

Material: Data for this study comes from the Survey of Social Development Trend about Health Security, a representative survey in Taiwan. We used data from subsample of all respondents who were aged 26-65 years old. The main outcome measure was the respondents' self reported height and weight that was calculated and defined as overweight according to the age/sex specified body mass index criteria given by the Department of Health. All statistical analyses were performed with SAS software. We used logistic regression to compute odds ratios and confidence intervals to examine the association between socioeconomic status and overweight.

Results: The research results found that 23.3% of people are overweight, and 12.4% of people are obese. After controlling other factors, logistic regression showed that people with elementary education have 1.24 times more likely to be overweight compared to people with

graduate certification (95%CI 1.04-1.47). People with higher yearly income compared to those who with yearly income low than 20 thousands NT dollars have less risk to be overweight (OR=0.80). We also found that sex, marital status and age are significant associated with overweight.

SP-053

Out of Pocket Payment and Its Financial Burden on Households

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Introduction: In Mongolia policy measures are needed to reduce OPPs. In order to effect significant change, policy-makers must consider what types of OPPs are currently being made and ways that they might be offset. In a review of relevant literature, very little research was found to have been conducted on household OPPs in Mongolia. **Objective:** To assess the effect(s) of OPPs on health care utilization, to measure the burden of OPPs on households, and to examine socio-economic factors of health care expenditures of households in Mongolia. **Research methodology:** Data were collected from inpatients at district and provincial hospitals. The interviewers collected information on household demographic and economic characteristics; health insurance coverage; utilization of preventive, and curative health care services; out-of-pocket costs related to health care, etc.

Result: Overall, families spent an average 90USD on OPPs during a hospitalization. A relatively large percentage of families were found to have such high OPP expenditures. Extremely poor families spent 22 percent of monthly income on health-related expenditures. Poor households were found to have spent 16 percent. Average families spent 7.1 percent on OPPs for health-related needs, while middle-class families spent 5.7 percent and wealthy families spent only 5.2 percent of their monthly incomes on health-related OPPs during a hospitalization. **Conclusion:** Extremely poor and poor households spend disproportionately larger shares of their incomes for health-related OPPs than other socio-economic groups. Current health insurance arrangements in Mongolia are insufficient for alleviating this financial burden on extremely poor and poor families.

SP-054

The Associations between Academic Aspiration, Socio-Economic Status and Depressive Symptoms among Junior High School Students in Okinawa, Japan

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Objective: The purpose of this study was to investigate the associations between academic aspiration,

socio-economic status and depressive symptoms among junior high school students. **Methods:** The study sample consisted of 3714 students aged 13-15 of all 17 public junior high schools in Naha city, Okinawa, Japan. We conducted self-administered questionnaires in December 2007. The survey included questions about academic aspiration (less than university, university and more), socio-economic status (well-off, average, poor), and depressive symptoms. The socio-economic status was assessed by perceived family wealth. Depressive symptoms were measured by using the Center for Epidemiologic Studies Depression Scale (CES-D). The data were analyzed using contingency tables and logistic regression models.

Results: Girls had higher levels of depressive symptoms than boys. Socio-economic status was strongly related to depressive symptoms in both boys and girls. Students feeling poor had higher levels of depressive symptoms than those feeling well-off. Academic aspiration was related to depressive symptoms in boys but not in girls. Boys who reported low academic aspiration had higher levels of depressive symptoms than those who reported high academic aspiration.

Conclusions: These findings show that socio-economic status was related to depressive symptoms among junior high school students in Okinawa. On the other hand, the gender difference in the relationship between academic aspiration and depressive symptoms should be considered.

SP-055

When Justitia Meets Hippocrates: Coordination of Medicine and Law in Methadone Maintenance Program

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Background: Center for Disease Control (Taiwan) has carried out Methadone Maintenance Program (MMP) and the treatment for HIV/AIDS infected cases was free. But lots of cases were dropped out because of legal issues. Ministry of Justice (MOJ) started deferred prosecution for IDUs to promote participation of treatment instead of punishment since September, 2007. We evaluated the patients' participative duration of treatment to know the effects of price and law.

Materials: For demographic collection and analysis, we collected data from management information system of the Kunming Branch of Taipei City Hospital between November (2006) and November (2008). 1330 person-times (1236 persons) were analyzed.

Results: There were 1160 male and 170 female person-times, with a mean age of 41 (17-87). HIV, HBsAg and HCV positive rates were 13.5%, 18.5% and 86.7% respectively. 1054 person-times afforded all medical service fees by themselves. 185 person-times were treated free because of HIV infection. 91

person-times were deferred prosecution who needn't afford medical expenses but MOJ pin them down to Drug Prevention and Control Act. Mean days of three groups as mentioned above participative duration were 185, 203 and 272 days respectively. Survival analysis showed deferred prosecution cases who stay in MMP were longer than other cases significantly (Log-Rank test, $\chi^2=28.20$, $p<0.001$).

Conclusions: Some studies have indicated the longer patients stay in treatment, the better effects for patients will be. The coordination of law and medicine result in a positive outcome for MMP.

SP-056

“Risk Sexual Behaviour and Knowledge about HIV/AIDS among Male Injectable Drug Users in A Selected District town” of Bangladesh

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It was a descriptive cross sectional study conducted among 100 patients of five drug addicts' treatment centre and rehabilitation center in Mymensingh town during the period of March to June 2007. The objectives of the study was to explore possible factors related to risk sexual behavior and knowledge about HIV/AIDS among the male injectable Drug Users(IDUs). IDUs were interviewed with a view to identify their various socio-demographic characteristics as well as types, routes, frequencies and times of syringe used during administration of injectable drugs. Respondents were selected by purposive convenient sampling technique. The ages of the respondents were 15 years and above who were interviewed with a structured and semi structured questionnaire. Among 100 respondents, all were male with an average age of 26.56 years with a standard deviation of ± 3.70 years. The respondents were mostly (64%) unmarried. A total of 40% respondents had completed higher secondary level of education and 36 % were graduate and above. Thirty four percent respondents were unemployed. Most respondents belonged to middle class families with an average monthly income of 10290.00 taka with a standard deviation of ± 4722.00 taka. A total of 27% of the respondents started to take drugs mainly due to frustration and 23% as a result of unemployment. Besides this, addiction due to peer pressure also quite high (19.0%). Seventy six percentage of the respondents were found to take drugs for the period of 5 years or more and average period of drug use was found to be

5.52 yrs. Out of 100 respondents 76 were addicted with cannabis and 70 respondents were addicted with Buprenorphine(Tidijesic) and 50 respondents were addicted with pathedin. Thirty two percent respondents were found to take injectable drugs for the period of 5 yrs or more . A total of 98% respondents had experience to take multiple drugs. Forty percent respondents did not use disposable syringe during taking drugs.

It is evident that 80% respondents had the pre or extra-marital history of penetrative sexual exposure. Only 17.1% used condom during penetrative sex with their partner in the preceding month. Among the respondents having history of pre or extra marital sex 80% had to pay money to CSWs in the last month. A total of 41% respondents had average knowledge on HIV/AIDS regarding its cause, transmission and prevention. There was significant relationship between pre or extra marital sex and education level of the respondents. A total of 52.6% of the respondents who were graduate and above had good knowledge on HIV/AIDS.

SP-057

Characteristics of Patients Diagnosed with HIV/AIDS in University Malaya Medical Centre from 1986-2008

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Objective: This study aims at describing the characteristic patient diagnosed with HIV/AIDS seen in the University of Malaya Medical Centre (UMMC) from 1986 to 2008.

Methods: This is a retrospective study. Data were analysed using SPSS.

Result: A total of 1782 patients were collected (531 HIV and 1253 AIDS). The mean age of HIV patient was 38.3 years, 42.9% belonged to the 30-39 year age group and for AIDS patient was 43 years and 37.2% belonged to the 40-49 years age group. The majority were male, Chinese, had 9-11 years of education, employed and probably contracted HIV through heterosexual intercourse. The mean baseline CD4 count was 362 (95% CI: 332 – 393) for patients presenting with HIV and 153 (95% CI: 137 – 169) for patients presenting with AIDS. The mean plasma HIV viral load was 89,826 (95% CI: 60,369 – 119,283) for HIV patients and 248,611 (95% CI: 195,282 – 301,940) for AIDS patients. The distribution of patients at the WHO clinical stages were 1446 (81.2%) in stage III and IV. A total of 843 (47.3%) patients received anti-retroviral treatment, 720 (40.4%) with HAART and 123 (6.9%) without HAART.

Conclusion: The mean age of patients presenting with HIV was lower than patients presenting with AIDS. As expected, the mean CD4 count of HIV patients was higher than AIDS patients and the plasma HIV viral load of HIV patients was lower than AIDS patients.

SP-058

Knowledge on and Risk Perception of HIV/AIDS among University Students in Bangladesh

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Background: Although University students are at risk to HIV/AIDS due to their recent pubertal changes, poor self-control, poor life skills, availability and accessibility to sex workers and risky sexual behavior, much is unknown about the knowledge on and perception of HIV/AIDS among youths including students. Thus, this study attempted to observe the level of knowledge on, perception of as well as the factors associated with risk perception of HIV/AIDS among the young university students in Dhaka city.

Methodology: A structured questionnaire with few open ended questions along with many closed ended questions used to collect data from 500 students from one public and two private universities.

Results: Overall knowledge on HIV/AIDS among University students was satisfactory (mean =16.36 out of 23). But, knowledge on prevention, treatment and symptoms was to some extent low. In general, mass media (television was most frequent) was the most dominant source of students' knowledge on HIV/AIDS compared to parents and teachers. The perception of the own risk of being infected was comparatively lower than the perception of their friends' risk of being infected, no treatment and AIDS is the most dangerous disease in the history. Relatives as students' knowledge source was significant predictor in the perception of their own risk while doctors as knowledge source was the significant predictors of the perception of their friend were being infected. Significant predictors of perception of AIDS as the most dangerous disease were radio

SP-059

People with HIV / AIDS as Role Model in HIV and AIDS in the City of Makassar

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In HIV and Aids needed the participation of all elements in society, including ODHA (People With HIV / AIDS), because information and experience from ODHA can be used as the learning process for others to prevent and cope with HIV and Aids. HIV / AIDS is one of the health problems that are now received the attention of people of the world, HIV is the virus that causes AIDS because of a decrease in damage even sisten resistance body, while AIDS is a set of symptoms a disease caused by decreasing the body's immune system anyone. ODHA (People With HIV / AIDS) is the person who found the body of the HIV-positive. HIV and AIDS in Indonesia, including in the case have been conducted since AIDS was first discovered in Indonesia in 1987 and in

Makassar in 1996, so that ODHA role in the prevention and HIV and Aids can be a role model in the activities of prevention and treatment HIV and Aids in the community. Research in this thesis aims to find out how ODHA role in the prevention and HIV and Aids, so ODHA can serve as role models for the prevention and treatment in HIV / AIDS. ODHA akan into the sample or informants in this research is that ODHA has received empowerment and assistance from NGOs (NGOs) and ODHA that have not been used or not as a benchmark so that it can be the difference, and other issues of perceived day-to-day as part of the family and community, as well as what can be made so that ODHA can serve as role models in the prevention and HIV / AIDS. In implementing the activities and the prevention of HIV / Aids for this almost all elements of society have participated, the government and community organizations have also been working together so that the problems of HIV / Aids can be overcome. ODHA as part of the problem of HIV / Aids that we are facing can be used as examples of concrete activities in the prevention and HIV / Aids because they feel themselves living with HIV positive, so that experiences can be distributed to the community as a learning and self-control to prevent and cope HIV / AIDS in this community.

SP-060

Potential Involvement of Buddhist Monks as Advocators for HIV/AIDS Prevention in Sri Lanka **Koji Kanda¹, Yoshi Obayashi¹, Ananda Jayasinghe², K. Tudor Silva², Hiko Tamashiro¹**

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Objective: In Sri Lanka, Buddhist monks play an important role in people's daily life as a community leader. To explore monks' role as advocator for HIV/AIDS prevention in Sri Lanka, we conducted a survey regarding knowledge, attitude, and practice (KAP) on HIV/AIDS.

Methodology: The survey was carried out in Buddhist schools and a university in central Sri Lanka from May to July 2009. Among those who were 15 years or above, 259 monks agreed to participate in the study (response rate=84.9%). After obtaining informed consent, they filled in the anonymous questionnaire including KAP on HIV/AIDS and socio-demographic information.

Results: Respondents hold about 1-hour religious meeting twice a week, and 44.8% usually meet 100 or more community people each session. Nearly a half of them (52.9%) have ever talked about behavioral issues in the meeting. They thought they were more appropriate to offer HIV/AIDS awareness programs in the community than NGO (45.9% vs. 35.1%), and 71.8% were confident to support HIV/AIDS patients as well as preventive activities. However, their knowledge on HIV/AIDS was limited and only few (2-7%) have ever covered HIV/AIDS related topics in the meeting. More than three

quarters (76.8%) would like to learn more about HIV/AIDS.

Conclusion: If more knowledge on HIV/AIDS is given to Buddhist monks through a systematical training or awareness program, they would become potential advocates of HIV/AIDS prevention in the community.

SP-061

Knowledge About HIV Infection and Attitude towards People Living with HIV/AIDS among the Nurses Working in Bpkihs

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Knowledge about HIV Infection and Attitude towards People Living with HIV/AIDS among the Nurses Working in BPKIHS Mehta RS*1, Karki P*2, Rijal S*3 B. P. Koirala Institute of Health Sciences, Nepal Abstract: In world More than 40 million people are living with HIV/AIDS, 2.3 million are under 15 yrs , 14000 new infections each day , 1.7 million human infected with HIV/AIDS, 3.1 million deaths from AIDS , Million new HIV cases (13425) per day¹. The main objective of this study was to find out the knowledge about HIV infection and explore the attitude of nurses towards the PLWHA working in BPKIHS. It was descriptive cross sectional study conducted among the nurses working in medical-surgical and pediatric nursing department of BPKIHS. Using stratified random sampling technique units or wards were selected and using population proportionate method 60 nurses were selected out of 240 nurses to collect the data using pre-tested questionnaire in the first week of October 2007 and collected data was analyzed using SPSS-11.5 software package. It was found that 60% nurses were between age group of 20-25 years, Hindu (91.7%), staff nurses (78.3%), and non of them taken HIV/AIDS training previously. Nurses had more knowledge on causes (86.7%), transmission, symptoms, applying universal precaution (98.3%), where as less knowledge on confirmation of diagnosis(45%), ART (36.7%), PEP (45 %), and HIV/AIDS related services available at BPKIHS i.e. VCT (8.3%), PMTCT (13.3%),

SP-063

Perception of HIV/AIDS-Related Stigmatization and Discrimination towards People Living with, or Affected by, HIV/AIDS: Focus Group Perspective from a Multi-Ethnic and Multi-Religion Malaysian Society

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Background: Globally, HIV/AIDS-related stigma and discriminatory attitudes deter the effectiveness of HIV prevention and care program. This study aimed to

understanding the root of HIV/AIDS-related stigma and discrimination among Malaysian public.

Methods: Using a purposive sampling method, a total 14 focus group discussions (n=74) was carried out between March and July 2008.

Results: Perceived HIV/AIDS-related self-stigma and discrimination towards people living with HIV/AIDS (PLWHA) was profound. In particular, participants' responses indicated that the uneasiness towards PLWHA takes two forms. The first is the extreme fear of the lethal nature and deleterious effects of HIV infection, and second involves fear of contagion. It appears that discrimination attitudes toward PLWHA occur at different levels and to varying degrees across various ethnicities. Key factors affecting discriminatory attitudes include high-risk taking behaviors, individuals related to stigmatized identities, source of HIV infection, stage of the disease, and relationship with the infected person. Participants from rural locality have a relatively narrow view of PLWHA than those from the urban society indicated that stigmatization and discrimination faced by those living with HIV were intensified in a rural setting. Conclusion: Current HIV campaign that emphasizes on educating public the routes of HIV transmission, risky behaviors raise HIV risk, and high risk groups susceptible to acquisition of HIV should integrate prevention of HIV/AIDS-related stigma and discriminatory attitudes towards PLWHA.

SP-064

Potential Risk Factors for Cryptosporidium Infection **Mayuna Srisuphanunt¹, Vilaiporn Suvedyathavorn²,** **Yupin Suputtamongkol³, Siriwat Arnantapunpong⁴,** **Viroj Wiwanitkit⁵**

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Background: Cryptosporidiosis is very common in patients with HIV/AIDS and remains a threat to public health. A crosssectional analytical study to determine the prevalence and identify potential risk factors associated with Cryptosporidium infection among HIV/AIDS patients was conducted.

Methods: In the study of 143 HIV/AIDS adult patients with diarrhea, a total of 23 cases with Cryptosporidium infection and 120 cases with Cryptosporidium negative were reported during the study period.

Results: Results revealed that the prevalence of cryptosporidiosis was 16.1%. In a stratified analysis controlling for gender, factors associated with Cryptosporidium infection were history of diarrhea >21 days, CD4 count ≤50 cells/mm³, and WBC count <4,000 cells/mm³.

Conclusion: These findings confirmed that there was a strong association between cryptosporidiosis and CD4 count. Such information may provide possible

recommended strategies for preventing cryptosporidiosis in HIV/AIDS persons.

SP-065

Kap Study Regarding Universal Precaution Practices towards HIV/AIDS among Medical Students in District Quetta, Pakistan

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This KAP study was to assess the current level of Knowledge, Attitude and Universal Precaution Practices among 3rd, 4th and 5th year M.B.B.S. students of Bolan Medical College Quetta-Pakistan of the year 2007 towards HIV/AIDS. Two hundred and twelve medical students from year 3rd to 5th were invited to fill out a self-administered questionnaire. A total of 200 medical students consented to participate in this study, giving a response rate of 94%. Among them 35% had good universal precaution practices, 49% had moderate and 16% had poor universal precaution practices towards HIV/AIDS. Practices regarding universal precaution practices among medical students mostly at moderate level but some students had risky behavior, such as recap, bent or broke needles by hand after used to patients and disposed sharp instruments with other clinical waste. Moreover, the knowledge and attitude level of the medical students were found moderate towards HIV/AIDS and universal precaution practices. Statistical analysis indicated that there was significant association between knowledge and universal precaution practices ($p=0.003$) and attitude and universal precaution practices ($p=0.033$). Medical students still had limited knowledge about mode of transmission of HIV because of lack of understanding, and had no experience on it. Knowledge on HIV/AIDS and universal precaution should be enhance and implement in the medical college core curriculum, it should give emphasis on misconception, lack of understanding and supporting and promoting the students to adapt positive attitude towards universal precaution practice

SP-066

The Barrier Factors and Promotion Factors of Disclosing Medical Errors and Their Effects on Doctor's Willingness to Disclose and Apologize for Medical Errors

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In Taiwan, for the cost and impact of adverse events and medical errors, efforts focused on preventing in advance. However, some countries introduce "disclosure" to solve the problems. This research is to explore the barriers and the promotion factors of doctor's disclosing medical error in Taiwan. In addition, we want to know what kind of factors will affect disclosure and apology. We provide

510 the questionnaires in six hospitals. The response rate is 82.9%. "Concerning to be sued" is the major barrier factor. "When patient is reasonable to communicate" is the major promotion factor. From logistic test, "Concerning of professional reputation", "Severity of medical error", "Patient with higher social-economical status", "Patient with higher education background", "Doctor knowing patient or his/her family well", "Patient and his/her family are reasonable to communication" and "Patient and his/her family realizing patient's condition very well" are the common factors to affect disclosure and apology for minor medical errors. In addition to above factors, "Concerning to be sued", "Concerning impact on doctor-patient relationship", "Concerning patient having unreasonable response", "Patient with serious condition" and "Old aged patient" are the common factors to affect the disclosure and apology for serious medical error. This research suggests that an open discussion working environment may encourage doctors face medical error more positively.

SP-067

The Acceptance of Heart Model to Overcome Children Under Five Malnourish in Selayar, South Sulawesi, Indonesia

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Rationale Positive deviance: feeding practice, hygiene practice, and health seeking behavior from children who have normal nutritional status, can be developed and introduced as Heart model to overcome children malnutrition. Introduction of the model are needed for community in Selayar which is the risk area of children malnutrition.

Objective: To get information of the mothers acceptance toward positive deviance through Heart model, and their effect on nutrient intake and growth of child under five years

Method: A Quasi-Experiment research was conducted in different group of nutritional status of children. Subjects were 35 children under five who undernourished ($-2SD$ W/H) as an intervention group, and 56 children under five who have normal nutritional status as control. The Intervention group was programmed in hearth model with using 4 heart points, in three months. The Research variables are included: the acceptance of mother toward positive deviance, nutrient intake, nutritional status, and growth status of children under five.

Result: The result of this study shown that the acceptance of mother for feeding practice about 48 %, Hygiene practice (22.9%), and Health seeking behavior (51.4%). Nutrient intake were also increase before and after intervention ($P0.05$). Growth velocity for group intervention got 28.6%.

Conclusion: The acceptance of mother toward positive deviance through Hearth model will effect on nutrient intake and growth status of child under five years.

SP-068

Help Seeking Behaviour of Indigenous Taiwanese with Drinking Problems

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Alcohol continuously imposes serious threat to the already poor health of Indigenous Taiwanese. Despite the high prevalence rates of alcoholism, few Indigenous Taiwanese suffering from alcoholism seek help. This study investigated the pattern of help seeking and possible existing barriers in problems drinkers. It was a community-based study; participants were selected from 3 indigenous communities (Amis, Truku, and Bunun) of Hualien County. Their drinking problems, general functioning and barriers to help seeking were assessed. A total of 164 problem drinkers were identified. They were further classified into 3 groups, namely non-help-seeker (NS) (68%), help-seeker-non-professional (SNP) (23%) and help-seeker-professional (SP) (9%) according to their help seeking behaviour. The results of preliminary analyses show that those of more than 50 years old and women were more likely to seek help. Ethnicity was not associated with help-seeking. A strong relationship between seeking help for drinking and the number of life areas affected by alcohol consumption (including physical and mental health, home life, social life, work or employment opportunities, financial position). Further analyses suggested that physical and mental health was significantly associated with elder problem drinkers, while home life and social life were associated with female problem drinkers. Barriers to help seeking were categorised as either person-related or treatment-related. Participants indicated that person-related barriers were the main factors influencing their decision to seek treatment for a drinking problem. Furthermore, stigmatisation of people with alcoholism also interfered with help-seeking.

SP-069

Health Outcomes Post Earthquake for Rural Ethnic Minorities in Jin Shia Jiang Area, China

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Introduction: Few published studies are available to understand health outcomes in areas with high proportions of ethnic minority after natural disaster in China. By conducting a field based survey in Jin Shia Jiang area, six months after the Yunnan/Sichuan Panzhihua earthquake in Aug 2008, this study aims to: i) examine general health status and public health issues post earthquake in remote rural area, ii) identify health knowledge, attitude and practices of rural ethnic minority group and iii) discuss implication on relevant public health interventions and emergency preparedness in rural settings for indigenous population.

Methodology: A cross-sectional, face-to-face household survey was conducted in March 2009 using a cluster, snowball sampling method in the Maan Village of Xinan Township, Liangshan, Sichuan. Demographic information, earthquake related patterns, self-reported health status, injury and disease patterns, nutritional issues, living environmental health risk and knowledge/attitude/practices of health related behavior were collected. Data analysis included Fisher's exact test and Pearson's Chi-square analysis by trends. **Results:** Whilst earthquake related mortality is low, results indicate earthquake related structural damaged affected 92% of the households. Preventable infectious diseases were common within 6 months post disaster period. Injury prevalence was higher when compared with 2006 census data. Predictors and gaps in health knowledge, attitude and practice were also identified. **Conclusion:** Potential health education interventions should be developed to improve rural indigenous population health outcomes and practices.

SP-070

Study of Knowledge, Attitudes and Relative Factors of Tuberculosis Prevention among Students of Junior High School in Indigenous Living Areas in Hualien **Shu-Mei Chang¹, Wanhua Annie Hsieh¹, Hsiang-Ming Hsu¹, Ming-Shinn Lee²**

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Objectives: The incidence of tuberculosis (TB) higher than teenage in Hualien is the highest in Taiwan. The purpose of this study was to survey the knowledge and attitude of TB prevention among students in junior high schools located in indigenous living areas in Hualien. **Methods:** We performed cross-sectional survey on the junior high school students in three indigenous villages namely, Xiu-ling Village, Wan-rong Village and Zhuo-xi Village where the TB incidences are the highest among Hualien area. A structure questionnaire was used for data collection. In all, 606 questionnaires were distributed and 491 returned a response rate as 81.01%. We excluded uncomplete data and then 468 questionnaires were used for data analysis.

Results: The main source of information about TB was television, teachers and clinic nurse. Sixty percent reported that he or she did not obtain sufficient information for TB. The average correct rate for TB knowledge test was 24.29%. The questions that showed the highest correct answer was the method to diagnose TB and the lowest were the method of TB treatment plan and TB vaccination. The variables of relative factors of TB knowledge were the public source of TB information, the TB information from at least three sources, the availability of TB information, the TB information obtained from a clinic nurse, and TB slogan. Regarding the attitudes about TB, 79.1% of students reported that they worried about getting TB, 74.6% agreed that TB is a serious disease, and only 37.8% felt they have chance to

getting TB. Regarding TB stigma, subjects tends to be afraid of the condition if others know they were infected with TB, to feel embarrassed if they getting TB, to feel ashamed if getting TB. The most common cause of getting TB is poor hygiene. The variables of relative factors of TB stigma were the school they studied and the villages the lived. The students who ever got TB would felt easy to get TB. The relative factors of preventive TB behavior intention were TB knowledge, health behavior and the incentive to obtain more TB information.

Conclusion: These results can be used for TB prevention in junior high school in indigenous living areas. We suggest to give more TB education to these students and it is a part of effective ways on decreasing TB in ten years of our government policy. The material of TB education needs to be improved and made more interesting for students. If students receive correct TB information, they will propagate these information to their family and community.

SP-071

Urbanization, Violence & Health: Secondary Trauma and Chronic Stress among Urban Low Income Communities- All for New Public Health

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Interpersonal violence (family, intimate partner and community violence) is increasingly recognized to impact on public health in rapidly developing countries. Such violence emerging in urban poor/low income communities amidst rising prosperity in Malaysia is posing serious challenges to public health policy. Qualitative in-depth interviews were conducted with 25 respondents from 12 low-cost housing within Kuala Lumpur to explore their perceptions, attitudes and experiences of violence, and health impact. The 25 respondents, (12 men and 13 women) of diverse ethnicity, were staying in predominantly public low-cost, high density housing. Community violence, i.e. vandalism, street fights, robbery, drug dealing and homicide, was common. Women and men perceived domestic violence as private matter although several felt it was not right for a husband to beat his wife. Several men had been robbed, threatened and beaten. Three men had perpetrated violence: selling drugs during teen years, involved in illegal motorcycle racing, and assaulting a neighbour. Two women had been robbed. However, majority reported at least one family member having had experienced some form of violence. None had suffered any physical disability/disfigurement due to violence. However, secondary traumatising, viz. hearing about rape and murder happening within the neighbourhood, had created pervasive fear of and vulnerability to violence. None reported symptoms of severe psychological consequences viz. disturbed sleep, appetite and moods. Rapid urbanization and poverty leading to community violence impact on people's health through

secondary traumatising and chronic stress. New Public Health, based on citizen empowerment, is urgently needed to address such ecological correlates of health.

SP-072

Burden of Home Injuries to the Surgical Unit in the General Hospital, Nuwara-Eliya, Sri Lanka Samath D Dharmaratne¹, Asanka Abeyrathna², Achala Jayatilleke³

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Introduction: Injuries accounts for 9% of world deaths and 12% of the world burden of diseases. In Sri Lanka, injuries were the leading cause of hospital admissions for the past decade. Published data on the burden of home injuries in Sri Lanka are scarce.

Objective: To describe the burden of home injuries to the Surgical Unit in the General Hospital, Nuwara-Eliya, Sri Lanka.

Methods: A descriptive study was carried out in the Surgical Unit (male and female) from May 1, 2008 to June 30, 2008 (period of two months). All subjects admitted during this period with home injuries were included in the study. Data were collected using an interviewer administered structured questionnaire. Data was entered into an Excel data sheet and was analyzed using SPSS 12.1 statistical software. Results Of the admissions with unintentional injuries, home injuries constituted 20.9% (n=68). The mean age of the injured was 14.5 years (SD = 18.1 yrs). Majority were females (60.3%). Of the home injuries 35 (51.5%) were due to falls, 15 (22%) were due to instruments, 11 (16.2%) were due to burns, 2 (2.9%) from foreign bodies in the nose and 5 (7.4%) due to other causes. Out of 11 burn patients 6 were due to hot water burns under the age of 2.5 years. Conclusions: Burns in young children were identified as an important cause of home injuries apart from falls and instruments in this cold climate.

SP-073

Contribution of Alcohol to Deaths in Road Traffic Injuries in Eastern Taiwan

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Background and purposes: Road traffic fatality has been consistently highest in eastern Taiwan. Previous studies revealed risky driving behavior is common in this district. Our objective was to assess whether alcohol involvement in crashes and their fatality.

Materials and Methods: Police records of motor vehicle crashes occurred in eastern Taiwan, from January 2001 to December 2005 were analyzed. Information on all traffic injuries is assembled by road police. Detail information was collected on the crash and the vehicles,

drivers and persons involved. This report was based on 9,611 crashes caused by drivers' fault. Results: On average, the fatality rate was 5.2%. Two major causes of fatal crashes were driving under the influence of alcohol (DUI) 38.2% and speeding 17.7%. In rural districts, of the 5,748 crashes, the average fatality rate was 7.7% and the primary causes were DUI (15.3%) and speeding (9.0%). Of the 444 fatal crashes, speeding (14.7%) and DUI (35.1%) accounted for nearly half of them. In urban districts, of 3,863 crashes, the average fatality rate was 1.3%. Also speeding (3.3%) and DUI (6.2%) were the primary causes of the crashes. Of those crashes, the average fatality rate was about 3% to 6%. Multivariate analysis showed DUI and speeding were the significant factors associated with fatality in rural district.

Conclusions: Driving under alcohol influence was really common in eastern Taiwan, especially at rural district. This issue should be tackled without delay. The characteristics of road-users and the efficiency of trauma rescue system should be further assessed. Campaigns of road safety and public transport education are needed.

SP-074

The Roles and Experience of Bystanders in the Bullying Process

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Background: The responses of bystanders can enhance or reduce the effects of bullying. Besides adolescents, adults could also be bystanders. This study intended to understand the bullying process via bystanders' observation and the possible factors of the bystanders' various responses.

Method: Ten focus groups (five for boys and five for girls) were conducted to collect adolescents' attitude and responses about bullying. Each group consisted of six junior high school students. Five teachers and five parents were interviewed to understand their experiences about youth bullying. Content analysis and grounded theory were used to analyze the results. All participants have signed the informed consents.

Results: According to students' observation, girls conducted verbal and indirect bullying more frequently than boys. The victim was probably bullied by different ways consecutively, such as starting from verbally abused, followed by social isolated and physical bullied in the end. Some distinct roles of adolescent bystanders can be identified as reinforcers, defenders, and outsiders. Factors accounting for becoming bystanders may include victim characteristics, class atmosphere, teacher's attitude, and bystander's personality. Most of the teachers reacted to bully passively, which means not until something happened did they deal with it. Unlike verbal bullying or social isolation, physical bullying always caught teachers' attention. Parents usually did not

realize the serious part of youth bullying unless their child was the target.

Conclusion: Most students, teachers and parents are aware of or even involved in the bullying process. Future interventions should emphasize on persuading bystanders to prevent or stop bullying.

SP-075

Epidemiology of Hospitalized Burns Patients in Taiwan, 2007

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Although burn injuries are not the leading causes of injury-related deaths in Taiwan, patients need a lot of time and medical services to treatment or recovery after burning. This research brought "inpatient expenditures by admissions (DD)" and "registry for contracted medical facilities (HOSB)" form national health insurance research database in 2007 into analysis by using SPSS 14.0 software. There was 7,126 inpatient cases caused by burn injuries (males 61.23%, females 38.77%), and the average medical expenditures in each admission was 107,448 NT dollars in Taiwan, 2007. The total inpatient rate was 31.04 per 100,000, and males were higher than females (males 37.58 per 100,000, females 31.04 per 100,000). The inpatient rate of child from 0 through 4 years old was higher than any others. Among hospitalized burns patients, 53.79% (3,833 people) were consulted at plastic surgical department, 41.36% (2,947 people) were hospitalized in the medicine center. Each person complicated with 2.5 other diseases or injuries and received 1.51 surgeries or operations in the average. The hospital mortality caused by burn injuries was 138 people. The factors associated with hospital mortality caused by burn injuries were 1) ages, 2) sites of burn injuries, 3) inhalation injury, 4) degrees of burn injuries, 5) intentional burn, 6) hospitalized in the medicine center, 7) the number of other diseases or injuries, and 8) the number of operations by using logistic regression analysis.

SP-076

Injury Mortality Trends by Sex, Age and Cause in Taiwan

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Injury, threatening human lives and wealth, is the principal public health problem in Taiwan. The situation caused by injury in adolescent, youth, and middle-aged groups is especially remarkable. By long-term trend analysis of injury mortality rate, we may evaluate past injury prevention strategies and anticipate proper ones for the future. The research used the 1986-2007 Vital Statistics of Department of Health, Executive Yuan,

ROC, to calculate kinds of injury mortality rate by age, gender and cause. A 22-year trend of injury mortality rate was pictured then. The results and conclusions are as followed: In general, both of the counts of injury death and the injury mortality rate of male are higher than female in Taiwan. Injuries can be unintentional or intentional. The unintentional injury mortality rate decreased, but intentional one increased. Motor vehicle injury was the leading cause of injury death in Taiwan, followed by drowning. These two injury mortality rates decreased. Fall injury was ranked the third cause of death and has taken the place of drowning since 1996. The rate of fall mortality has remained stable. Suicide mortality rate significantly increased in study period, yet homicide mortality rate slightly decreased. While there is a downward trend in unintentional injury deaths, more effective measures to prevent motor vehicle injury, drowning and fall injury should be developed and fully implemented. On the other hand, to reduce suicide and homicide injury deaths should be most concerned in the future.

SP-077

An Epidemiologic Analysis of Suicide in Taiwan: 1986-2006

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In Taiwan, suicide has become a serious problem, ranking among the top ten leading cause of death since 1997. Therefore, it is necessary to understand the high-risk groups and methods of suicide for making prevention strategies. Data were obtained from the Death Certification data file provided by the Department of Health from 1986 to 2006. The aim of this study was to examine the age, sex, methods, and long-term trends in suicide mortality. The results shown: (1) There were 49,269 deaths, and 66.9% of them were males. The 30-34 year-old was dominant age group and accounted for 9.8% (4832 deaths). However, the highest mortality rate among the 80-84 year-old group (44.24 per 100,000). Hanging (40.9%) and poisoning with solids/liquids (29.9%) were two common methods of suicide. (2) Total suicide mortality rate declined from 1986 to 1994, but increased from 1994 to 2006. The suicide rate of male is higher than female, and both increased since 1994. (3) Divided into three age groups (0-19, 20-64, and 65 above), the mortality rate of 20-64 year-old has been increased dramatically since 2000. (4) Except for poisoning with solids/liquids and firearms, all kinds of suicide mortality rates increased. As all results shown, the suicide rate has been rising since 1994. Therefore, in addition to economic environment and social welfare policies, the government has to promote health education and suicide prevention programs for high-risk groups.

SP-078

The Preliminary Study of Disability Certification for Patient with Traumatic Brain Injury by Using WHO ICF System

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Traumatic brain injury (TBI) is an important public health problem which can result in death and permanent disabilities. Taiwan will start to use the International Classification of Functions, Disability and Health (ICF) for disability classification in 2012. The aim of this preliminary study is to try out ICF on TBI patients who have disability certificate. This study recruited 30 TBI patients with mean age of 47.4 ± 18.7 . The ratio of male to female is 9:1. There are 8 minor, 6 moderate, 12 severe and 4 critical disabled patients according to their certificates. At the time of injury occurrence, 27 patients had initial loss of consciousness, 28 intracranial hemorrhage, 14 amnesia, 22 neurological deficits and 6 co-morbidities. According to ICF core set, patients were evaluated separately for Body Function, Activities and Participation, and Environmental Factors. The result shows that 41 items may be relevant because more than 30% of patients had coded with these items. Relating ICF scores with TBI variables, it was found that disability classification and Body Function total score are statistically associated; Activities and Participation total score is significantly related to both disability classification and Glasgow Coma Score; convulsion, amnesia and neurological deficits are significantly associated with the Environmental Factors total score. In this study, we find ICF system and disability classification are positively related. Thus we can use the result of this study as a future reference for ICF core set for TBI patients in Taiwan.

SP-079

Factors Affecting the Outcome of Head Injury and Differences between Fall and Traffic Induced Head Injury

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Head injury is a major trauma to cause morbidity and mortality. Traffic accident and fall are two main mechanism to cause head injury. We evaluate factors affecting the outcome of head injury and differences between two major causes of head injury in a community based hospital. From 2006 to 2007, all victims admitted to intensive care unit in a community hospital under the diagnosis of head injury were collected. Among 325 cases evaluated, there were 138 cases of fall (42.5%) and 172 cases of traffic accident (52.9%), 72.9% were male, 24.6% were associated with alcohol consumption, and 37.3% received an operation. Outcome of head injury

was significantly related to age, mechanism of injury, combined spinal injury, associated complications, initial Glasgow Coma Scale (GCS) and TISS. Fall associated with higher percentage of ICH (60.4%) and more complications (57.7%) than traffic accident patients. Fall caused head injury is associated with older age (OR=8.69, 95% CI=3.08-24.57), alcohol consumption (OR=0.44, 95% CI=0.26-0.72) and poorer prognosis (OR=3.77, 95% CI=1.98-7.16) after controlling for clinical confounders. We demonstrate that fall account for almost half of the head injury in a community hospital. Prevention for fall and education to reduce alcohol consumption especially for older residents are crucial to reduce morbidity and mortality for head injury in a community.

SP-080

Influence of Pedestrian Environment Improvement on Fall Prevention Neihu Safe Community, Taipei, Taiwan

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Walking is the most healthy and energy-saving type of transportation. Residents of Neihu Safe Community walk a lot and put pedestrian's safety as one of their safety promotion goals. According to 2006 Neihu injury surveillance data, fall stood the third cause of injuries. Most of the injuries occurred on sidewalks. Therefore, a project aimed for better pedestrian's environment was come into operation in Neihu District, Taipei. The Neihu Safety and Health Promotion Association (NSHPA) and the Neihu District Office, Taipei City, co-conducted a field investigation to find out threats on sidewalks and skywalks in October 2006. After 3-hour inspection training, volunteers, including Neihu District officers, college students and local enthusiastic inhabitants, recorded every defect that might be dangerous to pedestrians. NSHPA collected the records and made a report to related official departments which were responsible for repair and maintenance. The same inspection was conducted again in April 2007. This study analyzed the data collected by NSHPA, and shows the results of the sidewalks safety inspection as well as the improvement effects. Number of defects found on sidewalks and skywalks before and after repair was compared. Fall injuries occurred in May through September in 2006 and 2007 were also compared to reveal the effect of the project. It was found that sidewalks and skywalks defects revealed 79% reduction at the second inspection. Fall injuries reduced 23.4%, mostly attributable to the improvement of sidewalks and skywalks. This is a good example of injury prevention with bottom-up and top-down. Pedestrians' environment has been improved, and fall injuries also decreased.

SP-081

Determinants of Participation in Fall Prevention Program among Elderly Fallers in Hong Kong

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Background: Fall injuries are one of the main causes nationally for the loss of independence at the old ages but they are preventable. The acceptance of fall prevention program is therefore the key element to reduce the risk of falling.

Aims: The study aims to estimate the uptake of fall prevention program among elderly fallers and explore the factors related to the participation of the fall prevention program.

Methods: A telephone survey was conducted to the elderly who aged ≥ 65 who were given a referral of fall prevention program after attending at the Department of Accident & emergency (A&E) due to fall at the NT East Cluster in 2007. The inter-relationships between the socio-demographics characteristics and related factors were explored using multivariate analysis. Results: Total 969 elderly (mean age 80 years) were contacted and 70% of them joined the program. The participation rates were lower (65.8%) in the older age group than the younger group aged under 80 (74.9%) and female (68.5% vs. 73.9% for male). The factors associated with the participation of the fall prevention program included higher education level (OR = 1.79; 95% CI [1.00-3.22]), with chronic illness (OR = 12.31; 95% [6.86-22.12]) and without any aid for walking (OR = 1.78, 95% [1.25-2.53]) after adjusted age and sex of the participated elderly. Conclusions: Elderly without the identified characteristics of participation may not receive the benefit from the fall prevention program. It is an important indication for the future development of prevention program in Hong Kong for elderly.

SP-082

Applying Root Cause Analysis to Improve Patient Safety: Decreasing Falls in Postpartum Women

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Objective: To investigate the effectiveness of interventions to prevent falls designed through root cause analysis.

Methods: Under preceding root cause analysis, root factors were classified into four major categories: environment and facilities, procedure, individual, and communication. Among them, communication, environment and facilities were recognized as the most vital factors to facilitate intervention accordingly. The fall prevention program included first intervention with adding live demonstrations and offering a printed education sheet, and second intervention with adjusting rails at the bedside and in the ward, placing anti-sliding pads on the floors of the bathrooms, and enhancing local

light in the bathrooms. This prospective longitudinal study was conducted in two large hospitals in Taiwan, with 2,460 participants in one hospital (intervention) and 2,451 participants in the other hospital (control). Results: In the intervention group, the incidence of postpartum falls within six months before intervention was 14.24 per 1000 patient-days, and dropped to 6.02 per 1000 patient-days within six months after intervention. The control group showed no marked decline in incidence with a rate of 13.72 and 14.05 per 1000 patient-days within six months, respectively. Using the Mantel-Haenszel test to compare the incident rate, there were significant differences ($p < 0.001$) between the incidence of the intervention group before and after intervention; and between the latter and each incidence of the control group. Conclusions: This study provides direct evidence that root cause analysis can be adopted in analyzing causes, and in formulating interventions to reduce the incidence of postpartum falls and improve patient safety.

SP-083

Low Birth Weight: Is Maternal Nutrition Is Associated with It?

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Low birth weight is one of the main factors for most of the childhood morbidity and mortality as well as for chronic illnesses in latter part of life. Major determinants for low birth weight in developing countries are poor maternal Nutritional status at conception and low gestational weight gain. A descriptive cross sectional study was done to identify the relationship between maternal nutrition, and low birth weight by using interviewer administered questionnaire with 524 mothers who delivered in maternity wards at teaching hospital Jaffna, during the period of 1st September to 30th September 2008. Interviewer administered questionnaire was used to collect data. Recordings were also made from clinic books, registers of labor rooms and bed head tickets. In this study low birth weight rate was 16.5%. Factors such low BMI of mother, number of parity, folic acid use prior to pregnancy, living in cemented house and house without proper chimney were statistically significant at p value 0.05 level. Food supplementation and home visits by PHM did not significant at same significant level. Low birth weight is still a significant problem. Problem needs early interventions before pregnancy rather than after getting pregnancy. ds over 250 will be cut off automatically.

SP-084

Factors Associated with Adolescent Pregnancy among Adolescent Primigravida Attending Antenatal Care Clinic at Samutsakorn Hospital, Samutsakorn Province, Thailand

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Adolescent pregnancy has been a critical public health problem since most adolescent confront various changes and development in term of physical, emotional, social and intelligent aspects. When they reach sexual maturity, sexual hormones will stimulate their sentiment. When adolescent getting pregnant, the effects are child health, adolescent development and family socio-economic development including national human resource development. The study was retrospective and case-control research with the objective of examining factors associated with adolescent pregnancy among adolescent primigravida attending the antenatal care clinic at Samutsakorn Hospital. Totally 203 adolescent primigravidas were selected as a study group and 203 non pregnant adolescents as a control group. Chi-square test and Odds ratio were used for data analysis. Data collection was conducted by self-administered questionnaires from June to August 2006. The factors which were significantly associated with adolescent pregnancy were occupation, educational level, experience of substance abuse, experience of smoking, sexual risk behavior, knowledge about sexuality, attitude towards premarital sex and peer's sexual risk behavior ($p < .05$). The factors which were the risk of getting adolescent pregnancy were not working/studying, low education, ever substance abuse, ever smoking, sexual risk behavior, and low knowledge about sexuality; agree with premarital sex and peer's sexual risk behavior. In conclusion, appropriate sexuality education in all level of school should be promoted. The safety environment for both school and residence could prevent children and adolescent from risk behavior.

SP-085

Risk Factor of Mortality Rate in Bantaeng District Indonesia 2005-2008

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According to Indonesian health demography survey in 2007, Maternal Mortality Rate (MMR) in Indonesia was 248/100.000 of live birth. This Study aimed to know the risk level of maternal age, maternal parity, birth attendants, and K4 Coverage of antenatal care to maternal mortality incident. Method of study was observational with case control design This study compared case groups of all mother undergoing maternal mortality incident in Bantaeng during 2005 to 2008 and control groups which didn't undergo maternal mortality

incident. The samples were 130 respondents with ratio 1 : 4, 26 cases and 104 controls. Data analyzed by using odds ratio (OR) statistic test 95% CI. The result showed that maternal parity, birth attendants, K4 coverage of antenatal care had a significant association as risk factors of maternal mortality incident with the value of each variables namely : maternal parity (OR 2,728 ; 95%CI 2,124-4,503). birth attendants (OR 3,080 ; 95%CI 2,124-4,503), K4 coverage of antenatal care (OR 3,600; 95% CI 1,446-8,964). While maternal age variable with value (OR 1,456 ; 95% CI 0,541-3,919) didn't have a significant association to maternal mortality incident. Maternal parity, birth attendants, and K4 coverage of antenatal care are risk factors for maternal mortality incident, while maternal age didn't have a significant association to maternal mortality incident.

SP-086

Identification of Causes of Neonatal Deaths in Resource Poor Settings: Validation of a Verbal Autopsy Tool in Orissa, India

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Background: Health planners need evidence-based mortality and morbidity pattern for prioritizing health needs and resource allocation, particularly in settings with weaker vital registration system. Verbal autopsy is the only alternative mean fulfilling the gap. Objective of the study was to validate a VA tool identifying the causes of neonatal deaths (CODs) in resource poor settings.

Methodology: This population based cross sectional study was conducted in two randomly selected districts with 223 Anganwadi centers. Trained non-health personnel administered the semi-structured, pre-tested VA tool to caregivers and ascertained CODs with help of expert algorithm. Medical records (MR) were taken as "Reference Standard" for validation.

Results and Discussion: The mean age at death was 6.2 days. The cause specific mortality fraction was calculated and adjusted for each assigned COD and found no significant difference among VA and MR diagnosis. The average recall period was 38 days with no significant relationship with accuracy of diagnosis ($p=0.127$). Majority CODs had good sensitivity and specificity except LBW, Sepsis, Tetanus and congenital anomalies. Combining LBW and prematurity to TETS (too-early-too-small) and sepsis related CODs into 'all sepsis' resulted better sensitivity and specificity. **Conclusion:** The tool proves to be good for diagnosing birth asphyxia, prematurity, pneumonia, jaundice and diarrhea; and provides room for improvement in identifying deaths due to other CODs. The need of the

hour is to improve and implement a VA tool in health system to identify the causes of neonatal deaths with no extra resources.

SP-087

Triage Scoring in Severity of Illness

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The prospective cross-sectional study was undertaken to study the utility of triage scoring for severity of illness based on clinical variables related to Systemic Inflammatory Response syndrome and Advanced Pediatric Life Support in predicting the outcome of sick children and to find an association of final outcome with abnormal clinical signs, to study the utility of triage for need of intensive care management and the utility of triage scoring system for predicting mortality among children between 2 months to 14 years. A total of 570 children requiring hospital admission through the emergency department in Kanti Children's Hospital, Nepal were randomly selected. Chi square test and fisher's exact test was used for data analysis. About three-fifth was above 5 years of age with acute respiratory tract infections, meningitis/meningoencephalitis, fever under evaluation were the most common diagnosis. Abnormal respiratory rate and temperature were the most commonly associated variables. The mortality was 23.9% in children having more than two abnormal clinical variables whereas the mortality was 2% in children having 2 or less abnormal variables. Systolic blood pressure, capillary refill time, oxygen saturation, and assessment of neurological status based upon AVPU classification showed was significantly associated ($p<0.001$) with the final outcome of the sick children.

Therefore, a severity illness score based on clinical signs alone can predict severity of illness and outcome and can be easily applied in emergency department in order to improve the management of sick children and for counseling with the attendants.

SP-088

Comparison of the Effect of Alcohol Application Versus Natural Drying in Umbilical Cord Care

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Background and Aims: The umbilical cord infection may contribute neonatal mortality and morbidity risk. The rigorous and proper regimen of umbilical cord care, therefore, has become a matter of great concern for prevention of infection. The aims of this study were to compare time to cord separation, parental satisfaction, and infection rate among newborns whose cords were treated with alcohol versus natural drying.

Methodology: The quasi-experimental, comparative study was conducted at a medical center in northern

Taiwan from Jul. 2008 to Jan. 2009. The participating neonates were assigned to two groups based on their birthdates. Group A, whose birthdates were attributed to even numbers, were treated with 95% alcohol; group B, whose birthdates were attributed to odd numbers, were treated with natural drying of the umbilical site. Results: 127 neonates were recruited for data analysis. Group A contained 64 cases and group B included 63 cases. No newborn developed a cord infection. Time to cord separation in group A was longer than in group B (95% CI for difference: 0.03~2.98; $p = .04$). The satisfaction scores of group A was lower than those of group B (95% CI for difference: -2.52~-0.45; $p < .00$). Conclusion: To our knowledge, this is the first study concerning comparison of outcomes between alcohol cleaning and natural drying for Taiwanese newborn cord care, which does not support continued use of alcohol. Healthcare providers may replace alcohol with natural drying to reduce medical cost.

SP-089

Human Resource Strategies for Safe Delivery in Nepal

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Background: Nepal faces serious challenges to providing safe delivery services nationwide. Only 18% of deliveries take place in health facilities.

Objective: Determine the extent and causes of health workforce problems affecting the provision of safe delivery services by the Government and recommend strategies to alleviate them. Methodology: Data were collected from all regional health directorates and regional, sub-regional and zonal hospitals. Validation data were gathered from selected health facilities. Data were collected on delivery services, staff availability and skills, and factors contributing to retention of staff. Ten private and NGO facilities were visited, and students in private training institutions were interviewed.

Results: The root cause of safe delivery staffing shortages was not lack of trained staff but the inability of the Government to attract and retain them. Specialist doctors, however, were inadequate. District hospitals particularly lacked doctors with caesarean-section skills and had a poor capability in anaesthetics. They also lacked nurses. Higher-level hospitals had acute shortages of obstetricians/gynaecologists and anaesthesia staff. Poor career prospects and lack of sanctioned posts were serious demotivators for retaining general practice specialist doctors (MDGPs) in district hospitals.

Conclusion: Tackling the identified human-resource problems requires a multi-pronged approach. Promotional opportunities and career-ladders must be considered before developing new training curricula and courses. A team approach should be used for posting

staff to district hospitals to ensure a complete caesarean-section team.

SP-090

Relation between the Midwives' Performance in Implementation of Antenatal Care and Quality Work Life in Tasikmalaya City

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Background: There exist a general relation between the health of mother and child and midwives' roles. Midwives have significant roles such as health provider, disseminator of information, conductor and counselor of mother and child healthy. In Tasikmalaya city, the health of mother and child is an important matter considering the death rate amongst mother and child in the city is still high in year 2005 and 2006.

Purpose: This study is designed to observe the linkage between Quality Work Life and Antenatal Care implementation of midwifery in Tasikmalaya by the year 2007.

Method: A descriptive analysis through cross sectional was used in this study. Population target were all of midwifery in 14 health service centers in Tasikmalaya city with the sample were all of population target (53 persons). All of the data were analyzed by quantitative and qualitative approach between Quality Work Life and Antenatal Care operational. It is also associated with the increase of target program as the outcome.

Result: Productivities of the midwifery in health service centers with good planning process, mobilization of implementation program, and controlling evaluation were established in 7 health service centers. Eight (8) health service centers possess a good Quality Work Life and however, there still exist 6 health service centers with bad Quality Work Life in Mother and Child's Health (MCH) unit. Three from nine components of QWL have significant relations with ANC operational of midwifery. They are 'equity of reward', 'safety work environment', and 'proud feeling with the institution'.

SP-091

Emergency Contraception with Mifepristone 10 Mg in Thai Women

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The objectives of this study were to evaluate use of low dose mifepristone 10 mg in term of efficacy, bleeding patterns, side effects and satisfaction of Thai acceptors. There were 120 women who participated in the study. Their mean age was 33.4+/- 7.1 years. All of them were Buddhists and most of them finished secondary school or higher. 31.7% of the women had not been pregnant, 63.7% had had a live birth and 20% had history of abortion. Most women had used oral pill in the past

(58.3%). No pregnancies were occurred among clients. The pregnancy rate was 0%. Few had some side effects. There were statistically difference in interval and duration between previous and treatment cycle. The treatment cycle was longer than previous cycle in term of interval and duration. It was concluded that use of low dose mifepristone was effective, safe, and few side effects.

SP-092

Risk Factors of Pneumonia at Under Five Children in Mattiobulu Pinrang, South Sulawesi Province

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Pneumonia is an acute infection of the lung tissue and sudden inflammation of the lung, with attack to children under five years old and it is mostly caused by various factors. The objective of the study was to examine risk factors related to the incidence of pneumonia in under five children at the Mattiobulu Pinrang, South Sulawesi Province. The design of this research was case control study. Cases (n=80) was under five children with diagnosed pneumonia at Primary Health Center and control (n=80) was those similar sex without pneumonia. The data were analyzed by using cross tabulation, odds ratio, and multiple linear logistic regression. The study found that age (OR:5.50), low birth weight (OR:5.11), immunization status (OR:5.36), household density (OR:2.76), smoking habit (OR:10.87), and mother's knowledge (OR:8.13), were risk factors of pneumonia. Using multivariate analyses, it showed that the most dominant risk factor affecting pneumonia was smoking (OR: 6.60). We conclude that smoking and immunization were important factors and recommend that health workers should give more attention to educate parents regarding immunization and smoking.

SP-093

Cesarean Section, VBAC and Immigrants in Hsin-Chu County, Taiwan

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Objectives: This study investigated the difference and risk factors regarding the mode of delivery among immigrant women in Hsin-Chu County, Taiwan. It focused on the role of the mother's ethnicity, including Mainland Chinese, Indonesian, Vietnamese, aboriginal Taiwanese and non-aboriginal Taiwanese.
Methods: This is a retrospective study of all mothers residing in Hsin-Chu County, Taiwan and delivering during the period from January 1, 2002 to July 31, 2007. A total of 30,770 computerized singleton birth certificate files were analyzed. Delivery modes and risk factors were compared by using of ANOVA and logistic regression. Non-aboriginal Taiwanese was defined as the

reference category. $P \leq 0.01$ was set as the appropriate one. Dependent variables included total cesarean section, primary cesarean section and VBAC rates. Independent variables included maternal age, year of delivery, health care institution, gestational age, birth weight, infant sex, birth status, congenital birth defect and lunar month of delivery. The trend in cesarean deliveries was also evaluated.

Results: Among all 30,770 singleton births, the total cesarean section rate was Mainland Chinese, 22.0% (326/1,583); Indonesian, 16.0% (181/1,129); Vietnamese, 17.0% (184/1,081); aboriginal Taiwanese, 27.4% (336/1,226) and non-aboriginal Taiwanese, 29.8% (7,692/25,850). The primary cesarean section rate was Mainland Chinese, 16.3% (223/1,369); Indonesian, 9.7% (101/1,045); Vietnamese, 12.1% (123/1,016); aboriginal Taiwanese, 15.6% (162/1,040) and non-aboriginal Taiwanese, 19.4% (4,339/22,323). The rate of VBAC was Mainland Chinese, 9.6% (11/114); Indonesian, 4.8% (4/84); Vietnamese, 6.2% (4/65); aboriginal Taiwanese, 6.5% (12/186) and non-aboriginal Taiwanese, 4.9% (174/3,527). Multivariate regression analysis revealed that ethnicity was a significant predictor of total cesarean section and primary cesarean section rates for Mainland Chinese (OR 0.69, CI 95%: 0.60-0.78; OR 0.83, CI 95%: 0.72-0.97), Indonesian (OR 0.47, CI 95%: 0.40-0.56; OR 0.48, CI 95%: 0.39-0.59) and Vietnamese (OR 0.60, CI 95%: 0.50-0.73; OR 0.52, CI 95%: 0.44-0.61).

Aboriginal subgroup showed significant low rate of primary cesarean section (OR 0.77, CI 95%: 0.64-0.91). VBAC rate was found statistically significant high (OR 2.12; CI 95%: 1.11-4.05) in the Mainland Chinese subgroup. Furthermore, the increasing trend of total cesarean section rates was showed both in Chinese-speaking and non-Chinese speaking immigrant subgroups.

Conclusion: Compared to non-aboriginal Taiwanese women, the significantly low total cesarean section and primary cesarean section rates were valid among immigrant pregnant women, including Mainland Chinese, Indonesian and Vietnamese in Hsin-Chu County, Taiwan. Moreover, Mainland Chinese subgroup had the highest rate of VBAC as well. Logistic regression analysis of independent risk factors, maternal age, medical care institution, birth weight, gestational age and birth status were also showing significant effect on mode of delivery. Meanwhile, this study explored upward trend of total cesarean section rates both in Chinese speaking and non-Chinese speaking immigrant subgroups. Race/ethnicity and social class influence mode of delivery through complex pathways. Further research is needed to identify the social and biologic determinants of it. Proper health policy and strategies should be implemented for women's health.

SP-094

Statistical Reporting of Breastfeeding Rates: The Method Determines the Answer

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Objective: To review the methods used in the statistical analysis and reporting of breastfeeding rates.

Methodology: Using databases from breastfeeding studies in China breastfeeding rates were calculated using different methods identified from reports in the literature.

Results: Breastfeeding is the foundation of infant nutrition and lifetime health. To monitor breastfeeding rates must be reported accurately and consistently. Breastfeeding definitions influence results. In the Zhejiang cohort study the exclusive breastfeeding rate at one month was 59.6% using the 24 hour measurement favoured by UNICEF but only 39.5% using exclusive breastfeeding status since birth. At 3 months the rates were 60.7% and 30.3% respectively and at six months were 6.3% and 2.7%. Cohort breastfeeding rates were analysed using life table and Kaplan-Meier survival analysis procedures. Life tables are almost always more concise than Kaplan-Meier survival tables because the widths of time intervals in the Kaplan-Meier procedure depend on the events actually occur, not on fixed equal intervals set by the researcher. The narrower the interval widths set in the life table procedure, the more the two procedures will be close to each other. Life table and Kaplan-Meier survival analysis are only descriptive procedures and if covariates are thought to be important in determining duration of breastfeeding, regression modeling which incorporates covariates, such as Cox regression may be preferred.

Conclusion: Accurate definitions and consistent/standardized observations are imperative for reporting breastfeeding rates. The way breastfeeding rates are calculated determines the results and is important for public health.

SP-095

The Investigation of Affecting Factors on the Biological Features of the Umbilical Cord Blood Units

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The engraftment outcome of umbilical cord blood (CB) transplantation is highly dependent on hematopoietic stem cell content including some laboratory parameters such as CD34, and total nucleated cell (TNC). It would be helpful to predict CB cell count based on the donor-related variables before cell processing. In this study, a total of 1589 CBs preceded from January 2007 to December 2007 were obtained from the Buddhist Tzu Chi Stem Cells Center. We studied the effect of maternal variables such as number of gestation weeks, delivery

method, mother's age, birth order on CB characteristics. Besides, neonatal factors including baby's sex, birth weight, cord length, and placental weight were evaluated. The mean of CD34, TNC, cord blood volume and platelet were 28.63($10^3/\text{ul}$), 88.02($10^3/\text{ul}$), 93.26(ml), and 222.67($10^3/\text{ul}$), respectively. CB characteristics were correlated significantly. In multiple regression analysis, mother age and cord length had no effect on these CB characteristics, however, delivery method and gender of newborn significantly affected CB characteristics. The results also indicated that the significant factors influencing CD34 were gestation week and placental weight. For TNC, the significant factors were birth order and gestational week. The gestational week, birth weight and placental weight had significant effect on the volume. Those findings might be useful for consideration to collect more qualified CB units efficiently.

SP-096

Acceptance of Contraception among Married Women in the Reproductive Age Living in the Refugee Camps in Kathmandu, Nepal

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The descriptive cross-sectional study was undertaken to determine the contraceptive prevalence rate, the factors affecting the acceptance of contraception and to find the association between them among married women in the reproductive age living in the refugee camps in Kathmandu, Nepal. Convenient sampling was employed to interview 178 married women. Chi square test and fisher's exact test was used for data analysis. Only 33.7% were using contraception with injectables being the most favored method. The main reason for using contraception being to limit the births. Side effects was the main reason for stopping the method used in the past. Women with higher age at marriage, higher education and those working outside were more likely to use contraception. About 51.7 % had poor knowledge and was associated with acceptance of contraception ($p < 0.001$). Level of attitude did not show any association and majority had an unfavorable attitude. Discussing about contraception with husband, friends and health personnel showed an association and support from husband, parents and friends was also associated with acceptance of contraception. Information from husband, health personnel and media showed an association ($p < 0.001$). Source of contraceptive service and waiting time was associated with acceptance of contraception ($p = 0.025$ and $p < 0.001$). The attitude as well as knowledge of these women regarding the risks, benefits and side effects of the contraceptives remains deficient. Therefore, the result suggests a need for improving the knowledge and attitude among these women living in the refugee camps.

SP-097

The Effect of Residential Conditions on the Intention of Additional Childbearing in Korea

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Background: South Korea's (Korea hereafter) fertility has been very low since 2002 with its total fertility rate lower than 1.3 (1.13 in 2008). There have been a number of attempts to analyze the causes and consequences of low fertility in Korea. These attempts have mainly focused on the individual characteristics (e.g., socioeconomic status, maternal age, parity, or employment status) and the neighborhood characteristics (e.g., social capital, neighborhood socioeconomic status, or child care environments). Although childbearing and childrearing are closely related with residential conditions, little attention has been paid to the role of residential characteristics vis-à-vis fertility in Korea.

Objectives: This study aims to divulge the relationship between various residential conditions and the intention of additional childbearing, particularly focusing on the ownership status and the housing types.

Content and Method: 2005 Korean Census 5% Sample survey data will be employed. Due to social concerns on low fertility, intention for additional childbearing was asked to Korean married women at reproductive age for the first time in 2005 census. Residential conditions will be measured by the ownership status, housing type (e.g. apartment, house, shared house, etc), housing size and the number of rooms per capita, and residential duration. **Contribution:** This study is the first to analyze the effect of residential conditions and fertility in Korea. Findings of this study will help better understand the causes of low fertility and prepare effective policy reactions to low fertility.

SP-098

Intention VS Reality: Factors Affecting Breastfeeding Duration. The Results of a Six Week Postpartum Survey

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Aims: To identify the barriers to breastfeeding at six weeks.

Method: A baseline questionnaire was completed by expectant mothers (n=394) who were recruited on the first night of antenatal classes, at eight public maternity hospitals in Perth, Western Australia. Questions were included on breastfeeding intent, breastfeeding attitudes and breastfeeding knowledge. A second questionnaire was completed at six weeks post partum and identified current infant feeding practices. Data at 6 weeks was analysed using Chi-squared tests and to assess the intent-reality relationship McNemar's test was used to take into account the correlated data.

Results: The results to date show that 84% of mothers identified their intention to exclusively breastfeed, 12% combination breastfeeding and formula, 1.5% were undecided and only 2% intended to formula feed only. At six weeks, 47% of mothers were exclusively breastfeeding; 22% were combination feeding and 31% were fully formula feeding. The duration intent also differed significantly from the reality.

Barriers to breastfeeding included attachment difficulties 43%, insufficient milk supply 32%, and engorgement 33%. Only 20% of women reported no problems with breastfeeding.

Conclusions: Realistic information about the barriers to breastfeeding and more emphasis on the benefits of exclusive breastfeeding may help to reduce the premature cessation of breastfeeding. Successful breastfeeding requires commitment, determination and perseverance from the mother with sufficient support from her partner and family to succeed.

SP-099

Do We Need to Consider Socio-Demographic Factors Affecting the Psychological Well Being of an Individual in Planning and Implementing Community Based Public Health Education(CBPHE) Programme? A Descriptive Cross Sectional Study

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Introduction: The psychological wellbeing of a target population is a key area that needs consideration in implementing community based public health education(CBPHE) programmes. Although the association between psychological wellbeing & socio-demographic factors has been widely investigated, there is limited published data at local setting. Therefore, prior knowledge on such factors will help to improve the efficacy of CBPHE programmes.

Methodology: This descriptive cross-sectional study was carried on systematically randomized 240 permanent residents aged 20-39 years at Homagama Pradeshiya Sabha, a sub-urban community in Sri Lanka. Informed verbal consent was obtained from the participants, before allowing them to answer the pretested and validated General Wellbeing Schedule (GWB) questionnaire; Data was analyzed using SPSS-15.

Results: There were 107 males(44.8%). Majority of males(70.1%) were in the age category of 20-29 years while 63.1% of females were in the category of 30-39 years. 53.3%(133/240) were married & 70.8%(170/240) were permanently employed. 10%(24/240) of the sample was severely distressed while 48.75%(117/240) were moderately distressed & rest of 41.25%(99/240) were in positive wellbeing according to GWS questionnaire. Gender difference was not statistically significantly associated with adverse psychological status(P>0.05). But being in age category of 30-39 years, unemployment

& being married were statistically significantly ($P < 0.05$) associated with adverse psychological status.

Conclusion: This knowledge on socio-demographic factors affecting adverse psychological status, helps to improve the efficacy of delivering the key messages of CBPHE programmes by refining the target groups.

SP-100

Study on Taiwan Businessmen's Work Pressure and Health Condition in China

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Background: Many Taiwanese businessmen are doing business in China, thus, the population of Taiwanese businessmen in China is increasing, and their health issue becomes more important.

Purposes: This study aims to discuss the relationship between work pressure and health condition for those Taiwanese nationals residing in China for work.

Method: This study conducted survey by structure questionnaire based on purposive sampling. A total of 168 Taiwanese managers living in Shanghai and nearby cities (Kunshan and Suzhou) were sampled.

Results: The average age of the subjects was 40.4 ± 7.9 years old, 77.4% were male and 22.6% were female; their education level was mostly above college (83.7%); 60.1% reported having work pressure. The analysis on their work pressure and health status showed that those with work pressure have medical history of hyperlipemia and neck pain. They have the habit of drinking alcohol. The percentage of having poor sleeping quality in the recent month is higher than that of those without work pressure. In terms of mental health status, Beck Depression Inventory was used for measurement, and the result showed that those with work pressure have a higher score of depression (10.16 score vs. 5.31 score, $P < 0.05$) than those without work pressure. The survey on health-related quality of life (SF-36) found that those with work pressure have lower scores in RP, BP, GH, VT, and MH than those without work pressure.

Conclusions: The work pressure of Taiwanese businessmen in China is related to their physical, mental health status and health-related quality of life.

SP-101

Hardy Personality: Cognitive Responses to Managers' Mental Health in Balancing Work-Family Life

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Stress is inherent in today's life in balancing family and work life demands. The need to balance work and family life is not isolated to women anymore as men's role is increasingly expanding to more than as the family's

breadwinner. Today, more men are making efforts to play an active fatherly role. Nonetheless, the expectation of performing excellently at work and to be the star performer at work still prevails. This created a stressful situation. The inability to cope with stressful events can result in undesirable psychological and behavioural outcomes, leading to chronic stress, burnout, poor job performance, absenteeism, withdrawal from the profession, and well-being of individuals. In the long run, it not only lowers down productivity but would increase employers' cost through higher medical bills. Hardiness personality disposition (Kobasa, 1982) as a moderating variable has created a new resurgence of interest in physical and mental health research. It has been argued that hardiness mitigates the potential unhealthy effects of stress and prevents the organismic strain that often leads to illness. Hardiness is particularly relevant because it is theoretically defined as 'a resistance resource in the encounter with stressful life events' (Kobasa, Maddi, & Kahn, 1982, p. 169). On the other hand, research has also found that work and nonwork satisfaction relate to one's mental health. Therefore, it is the purpose of this research to review the coping process of Malaysian managers specifically the individual differences which managers use to cope with stress. The results are expected to evaluate the role of work as well as nonwork roles in affecting manager's mental health. The proposed model would investigate the relationship between stress as a result of balancing family and work life and mental health of Malaysian managers. In addition, the moderating role of hardiness is tested on the stress and mental health relationship.

SP-102

Lessons from Applying Oral History Approach in Community Mental Hospital

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It is apparent that science and medicine would become even powerful and real while they are situated in local narratives. Yuli Veteran Hospital situated in the middle of the narrow long rift valley that stretches 100 kilometers from Taitung to Hualien, is fairly isolated from other towns. The patients have been an even more marginalized population. Over there, patients, who have been institutionalized for years before coming to Yuli, have spent an average of 8 years at private and public hospitals around the island, mostly in merely custodial care. Most had already lost close contact with their families; or the families have long since been exhausted by the burden of care. With these difficult conditions, the professional staff at Yuli faced the fact that they could not treat these chronic patients with the old methods and institutions. The Yuli model of community therapy for psychiatric patients places the patient at the center of the

process. After a lengthy process of familiarization and interaction, the staff of the Veterans Hospital was able to persuade the residents of the town trusting their abilities of self-discipline and autonomy. A support network was extended into the community for the assistance of this employment, which also gave the patients new self-confidence to attempt reintegration into society. The economic outcome was also beneficial, generating NT\$3 million (US\$100,000) in income. Moreover, the staff is utilizing oral history for the process of developing an even closer collective sentiment between patients and community, which is anticipated to reinforce the results of the program. Supportive environment will shape patients' autonomy in clinical settings and daily lives. Accordingly, patients are not only aware to their medication status but also could support each other through appropriate arrangements. Furthermore, their relatives and boss could be supportive if they recognize the residual function of each patient with the help from professionals and institutions. Finally, medical professional should play the role of empowerment in building three layer of therapeutic community. The narrative method of life history, with close listening to patients, helps them to distinguish the real self from the false self, and this is the crux to whether they can reach a turning point. The process of oral history bring the patient back to his experience of the initiation of illness, and the memory of the feeling of being unwillingly committed to the institution. We have discovered that this external intrusion is linked to his/her own understanding of his/her situation, the suitability of the environment, and whether or not they can exercise self-discipline. This is the starting point for the work of the Yuli staff, to create a link between the inner world of the patient and the outer real world. Also, new role of medical professionals will be recommended.

SP-103

Depression Is Associated with Decrease Physical Performance of Older People

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Aim: To explore the influence and contribution of depression compared to chronic diseases in decreasing physical performance of older persons
Methods: Data from a population-based survey of 765 elderly people aged 60 years and above living in Malacca were analysed. Geriatric Depression Scale was used to assess depression. Presence of chronic diseases was self reported and verified through medical records. Physical performance was based on two outcomes; self reported functional limitation and performance based functional limitation. Two separate models were formulated using the log binomial regression, as the outcome prevalence was high (>10%). This is a more preferable method to

the logistic regression when odds ratio is not a reliable estimate of the relative risk.

Results: 2.4% to 36.3% of respondents with one or more chronic diseases had depression. After adjusting for age, sex, social isolation, and cognitive function, depression had the highest significant association with aPR of 1.60 (95% CI 1.09, 2.34) and aPR 2.60 (95% CI 1.79, 3.77) compared with presence of chronic diseases. Population Attributable Risk for performance based functional limitation due to depression was 39.4% (95%CI 15.8, 63.1).

Conclusion: Depression is associated with decrease physical performance greater compared to presence of one or more chronic disease alone. If older people were treated for depression 39.4 % of the performance based functional limitation cases would be eliminated. More efforts should be given to screen, diagnose and treat older people with depression.

SP-104

The Role of Social Support toward Superior Student's Stress Level

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Superior student class program is program that distinguishing student based on their achievement which upper average normal student report. The students must compete each other to be the best in their class, and that situation made them in stressful condition. The aim of this research was to find out the role of social support on students who selected in superior class program. The subjects of this research was 60 students of superior class programs at SMAN (High School State) 1 Bulukumba, South Sulawesi. The data collected based on four scales, which are stress scale, parent social support scale, teacher social support scale and peer group social support scale. The multiple regression analysis was applied to analyze data by SPSS for windows program version 13.0 The hypothesis werw : (1) their was a negative relationship between social support (parent, teacher and peer group) and stress level , (2) their was a negative relationship between parent social support and stress level, (3) their was a negative relationship between teacher social support and stress level, (4) their was a negative relationship between peer group social support and stress level on superior studen class program. The result indicated that their was a negative correlation and significant between social support and stress level on superior student class program with $R=0.376$; $R^2=0.141$, $F=3.074$ and $p=0.035$. Social support effectively contribute 14,1% to the student stress level. Parent social support was a negative correlation and significant to the student stress level with $r=-0.256$ and $p=0.041$. Teacher social support was a negative correlation and significant to the student stres level with $r=-0.100$ and $p=0.050$, and finally peer group social

support was negative correlation and significant to the student stress level with $r=-0.106$ and $p=0.051$

SP-105

The Study on the Effects of the Health Education Group in a Drug Abuser Treatment Center

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Objective: Because the drug abuser treatment center had no correlative education teaching material, this study tried to design group education courses for the problems of body, mind and soul of drug abusers.

Methods: This study adopted descriptive research. the group education courses which lasted for 13 weeks. This study used the self-made assessment chart of awareness of drug education. We collected the data before and after the group education from August 17 to November 16, 2007. And then we proceeded descriptive statistics and inference statistics to analysis these data by the analysis software, SPSS 12.0.

Results: Eventually, we found that these 74 drug abusers were all male, By using the chi-square test, we found that drug abusing behavior could be improved after and before group education accounted for 68.9% and 85.1% ($P=0.017$). In the parts of damage of drugs, awareness of infectious diseases and employment resources ($P=1.0$).

Conclusions: In accordance with the results that mentioned above, conducting group education courses could reach drug abuser' demands and then could improve their abusing behaviors to achieve the effect of drug rehabilitation. Because in the parts of damage of drugs, awareness of infectious diseases and employment resources, there was no significant difference, we should guide correlative knowledge after their admission. In the courses of employment resources, because the abusers could not get employment information in the rehabilitation center, the effects were limited.

SP-106

Alcohol-Associated Excess in Emergency and Injury Service Utilization among Young Adults in Taiwan

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Purpose: This study sought to examine the link between alcohol drinking and emergency and injury service utilization among community-dwelling young adults in Taiwan.

Method: Data were from 2005 National Health Interview Survey (NHIS) and linked National Health Insurance claimed data (NHI). With a focus on sample with age of 18-34 years, information pertaining to individual sociodemographic background and health behaviors was obtained from face-to-face interview in the NHIS ($n=6345$); service utilization records concerning emergency room and healthcare of injury causes

(ICD-9-CM: 800-999) were retrieved from those providing consent to data linkage with NHI ($n=5133$, linkage rate: 81.6%).

Results: Approximately 28.33%wt ($n=1455$) drank less than once a week, and the estimate for once or more per week was 10.38%wt ($n=542$). A dose response relationship appears between frequency of alcohol consumption and the utilization of emergency room and injury-related healthcares (both p -values < 0.001). While simultaneously adjusted for gender, aboriginal ethnicity, household income, religious affiliation, educational attainment, major physical diseases, and mental diseases, once or more per week drinking was associated with 33% increased visits of emergency room (95% CI=1.03-1.72, $p<0.05$), and 25% increased utilization of healthcare of injury causes (95% CI=0.99-1.59, $p=0.06$); the observed alcohol-associated excess was less salient once tobacco smoking and betel nut were statistically adjusted.

Conclusion: Higher frequency of alcohol consumption may be modestly associated with increased utilization of emergency room service and healthcare of injury in young adults. Health education program is needed to raise public awareness for responsible drinking and future research may help delineate possible mechanisms.

SP-107

The Relationship between Heavy Metals (HG, PB, CD, MN) and Maternal Nationality on Children Development

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Background: Developmental delay is a common problem in pediatrics, with an estimated population prevalence as high as 10%. Number of developmental delay children in Taiwan has increased in recent years. Many studies have observed that heavy metals, such as mercury and lead, affect children's cognitive behavior and intelligence. However, evidence is still insufficient to establish this association between heavy metals and developmental delay in children.

Objectives: The aim of this study is to examine the effect of family, nationality, environmental exposure and child characteristics on children development, and to analyze their association with respect to heavy metals detected in their blood sample.

Methods: This cross-sectional study enrolled 118 children in Nantou from Nov. 2008 to Jan. 2009. We used interview questionnaire to collect data and used D! enver Developmental Screening Test Chinese Version (DDST-Chinese version) to estimate the stages of children development. Blood levels of mercury, lead, cadmium and manganese were assayed by inductively coupled plasma mass spectrometer (ICP-MS).

Results: For every log-unit increased in blood cadmium level, the gross motor skill failure rate was increased by 2.56% ($p=0.010$). Children with low birth weight

(<2500g) had higher failure rate in gross motor skill, langue, social contact, and children development (all categories). Maternal nationality did not have significant effect on children development.

Conclusion: Cadmium affects the gross motor skill performance of children. The development of immigrant children is not worse than those born domestically. Low birth weight is an important factor affecting children development.

SP-108

Possible Age Differences in the Predictors for Incident Use and Long-Term Use of Benzodiazepines (BZDs) in Community-Dwelling Population in Taiwan

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Benzodiazepines are one of the most commonly abused psychoactive medications worldwide. This study sought to understand predictors of incident use and long-term use (LTU) of Benzodiazepines (BZDs) in community-dwelling civilians in Taiwan and probe possible adult-elderly differences in such links. The data were from 2005 National Household Interview Survey (NHIS). Information concerning pharmacological services and medical records in 2004-2006 National Health Insurance Research Database were subsequently retrieved upon consent (linkage rate~70%). Building up 15,508 individuals who had received any BZD prescription in 2004, incident use was defined by having received BZD prescription at least one day in 2005; as to LTU, having 180-or-more BZD prescription days between 2005-06. Complex survey analyses were performed to estimate association strengths. Annual incident rate of BZD use in adults and elderly was 7.26% and 10.98%, respectively. Among BZD new users, roughly one in 6~7 elders develop LTU, significantly higher than 5% in adults. Adult-elderly differences appear in the predictor profile of LTU. For example, higher educational attainment and having more physical disorders in individual characteristics were modestly associated with BZD LTU in adults (aOR=1.4~2.1); whereas for elderly BZD users, only service-provider attributes matter (receiving BZD prescriptions from ≥ 2 specialties, aOR=12.47). Our study found possible adult-elderly differences in not only the occurrence of incident use and LTU of BZD, but also the predictor profile. Future health education and pharmacological policy should integrate age-tailored strategies to reduce BZD LTU related problems.

SP-109

The Effect of Floating in Seawater on Physical and Psychological States- Evaluation of Anxiety

Psychological State in Subjective Perspective by Using Stai and Vas-
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Purpose: The purpose of this study was to examine the effects of floating in seawater on physical and psychological states.

Subject and Methods: The study was performed with a randomized, nonblinded, crossover design. The eighteen subjects aged 19-29 (21.0 ± 2.2 y) who had no medical treatment and agreed to the informed consent are selected as participate. The subjects were randomly assigned to either an intervention of floating in sea-water (FS) or to a control group of lying on a bed (LB), and performed both trials after 48h washout periods in Thalassotherapy health-spa facilities, Okinawa, Japan in May, 2006. To evaluate the effect of trials on physical and psychological state, STAI (State-Trait Anxiety Inventory) and VAS (Visual Analog Scale) were measured at before and after of each trial.

Results: A significant difference was found between SF and LB on the state anxiety scores after the intervention. On the subjective evaluation on the psychological state, the score of will, mood, concentration and appetite state decreased significantly after intervention, while that didn't change significantly in the control.

Conclusions: As a conclusion, the floating in seawater as a thalassotherapy had better effects to decrease anxiety and improve psychological state, and it might be well recommended as it was good to relaxation stresses and improve mental health.

SP-110

The Relationships of Coping Behaviors with Bereavement, Attachment Styles, and Anticipatory Mourning Reactions among Families of Terminal Cancer Patients in Kaoshiung Hospice

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The main purpose of this study was to explore the relationships of coping behaviors with bereavement, attachment styles, and anticipatory mourning reactions among families of terminal cancer patients, and to understand the differences between anticipatory mourning reactions and bereavement-related factors, such as sex, age, religion, health condition and social support. The subjects of this study were 142 families in Kaoshiung Hospice. The subjects were evaluated by Attachment Style Scale, Brief COPE Scale, and RGEI Scale. The data were analyzed by SPSS 12.0. The results were summarized as follows: 1. The anticipatory mourning reactions among subjects were significantly effected by sex, health condition, sources of social support, and relationship quality, such as conflict or dependence. 2. Attachment styles were significantly

related with the differences in "planning", "positive reframing", "religion", "denial", and "behavioral disengagement" of coping behaviors with bereavement. 3. Attachment styles were significantly related with the differences in "existential concerns", "depression", and "physical distress" of anticipatory mourning reactions. 4. The anticipatory mourning reactions among subjects correlated negatively with coping behaviors of "active coping", "positive reframing", "acceptance", "using instrumental support", and "venting", whereas positively with coping behaviors of "denial", "behavioral disengagement", and "self-blame". Suggestions were proposed in accordance with the study result.

SP-111

The Analysis of Exercise Behavior and Depression Tendency in Taiwan: Results from Taiwan National Health Kap Interview Survey in 2002

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This study aimed to: (1) describe the prevalence of exercise behavior and depression tendency in Taiwan, and (2) analyze the relationships between exercise behavior and depression tendency. Data from Taiwan National Health KAP Interview Survey were analyzed. People of age 15 years and older (n=26,755) were reviewed by a three stage systematic random sampling of households in this cross-sectional study. The relationships between exercise behavior and depression tendency was analyzed by Chi-square test and logistic regression. The main findings of this study were as the following: 1. The subjects without exercise behavior were 44.8%. 2. The subjects with depression tendency were 4.8%. 3. Subjects who were males, older than 65 years old, illiterate, widowed, not working, at lower health status, at lower economic level or living alone were more likely to exercise regularly. 4. Subjects who were females, elderly and adolescents, widowed, divorced, separated, at lower health status, at lower economic status or living alone were at highest risk of depression tendency. 5. The relationships between exercise regularity and depression tendency were negative; and that between exercise intensity and depression tendency were positive. 6. When demographic factors were adjusted, regular exercise was the major factor to decrease depression tendency, and the relationships between exercise intensity and depression tendency were positive. According to the finding, we may apply to help develop the policy for preventing depression and promoting physical and mental health.

SP-112

Effects of Work Support Program for the Person with Disabilities Rehabilitation

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Purpose: The purpose of our study was to establish fundamental job support environmental at psychiatric department clinical site.

Subjects and method: We adopted

Randomized-Controlled Trial to measure the effectiveness of starting job program during the six months. Twenty people with schizophrenia were randomly assigned to either an intervention group (n = 10) or to a control group (n = 10). Regards to judgment scale of intervention effect, we conducted several scale for three times, pretest, 3-months posttest, and 6-months posttest and these scales are Positive and Negative Syndrome Scale, Life Assessment Scale for the Mentally Ill and Self-Efficacy for Community Life scale. We also used General Self-efficacy Scale and Work-Personality scale.

Result: The score of GSES in the control group increased significantly after 6 months, but that in the intervention group did not. The score of SECL in both the control group and the intervention group did not change significantly between pre-test and post-test. The score of Work-Personality in the intervention group increased significantly between pre-test and 2-months post-test, and between pre-test and 4-months post-test, whereas that in the control group did not.

Conclusion: Considering above results, this work support program has proved that it has learning effect on schizophrenia in terms of their current recognition and job skills. Thus, this program has demonstrated its effectiveness toward schizophrenia for their social reinstatement support.

SP-113

Medicine Inefficiency among the Insured in Indonesia: A Case Study in a Hospital in Jakarta, Indonesia

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Physicians tend to be less sensitive to the costs of healthcare services when the patients covered by insurance. This makes the physician provides unnecessary of healthcare services, including provide prescriptions more medicine. One of the types of inefficiency is the unused medicine that has been prescribed by the physician. To test a hypothesis of whether the physicians prescribed more medicine among the insured patients, a study was done in a hospital in Jakarta. The study include 236 insured patients as the sample, which was selected randomly from 2.225 inpatients during the year 2008. The results confirms that there was an inefficiency of prescribed medicine, among other, due to (i) replacement of existing medicine, (ii) the physician prescribed more medicine than needed, and (iii) the doctors prescribe more medicine in order to be stocked of the ward. The inefficiency figures reached about 19% of the total medicine costs, consisting of 21% of the medicine covered by insurance and 5% of non-insurance. Our multiple linear regressions confirms

that education, age, experiences, and department of obgyn (vs other departments) were the determinants of inefficiency. The most predominant factors contribute to the inefficiency was the obgyn department. This study recommends to adopts a single-dose prescription policy.

SP-114

Pediatricians' Role of Caring Preschool Children in Taiwan under the National Health Insurance Program

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Background: The National Health Insurance (NHI) covers more than 98% of the 22 million people in Taiwan. Because referral is not mandated, competition among specialties exists in caring preschool children. The aim of this study was to analyze the utility of outpatient service among preschool children to investigate the pediatricians' role in caring preschool children. We also analyzed how the density of specialists induces demand by using the NHI database.

Methods: We used the systematic sampling file, CD20040, from the bureau of NHI, Taiwan, as the data source for analysis. We linked the file to the registries for medical personnel and the board-certified specialists to analyze the specialty distribution. We also linked to the registry for contracted medical facilities to analyze the distribution in different levels of hospitals. **Results:** In total, 56,144 outpatient visits for preschool children were analyzed. Among them, 59.1% of outpatient services for preschool children were provided by pediatric specialists, 20.7% by otolaryngologists, 13.5% by family medicine specialists, and the other 6.7% by general practitioners. Most of the visits occurred in the primary care setting (84.1%). As children grew older, a significant decline in the pediatric specialists' visit rate and an increase in the otolaryngologists' visit rate were observed in the primary care setting. Young children visited pediatric specialists more frequently. The pediatric specialists' visit rate was higher in the northern urban areas. It was also significantly correlated with the density of pediatricians. **Conclusion:** In summary, otolaryngologists compete with pediatricians in the primary care of preschool children in Taiwan. The proportion of visits to pediatric specialists was significantly correlated with the density of pediatricians among different counties. The NHI should modify its policy to make the medical system more equitable.

SP-115

Managerial Effectiveness of Universal Coverage Insurance Scheme in Thailand

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The objective of this study is to evaluate managerial effectiveness of Universal Coverage Insurance 2006-2008. Analysis of secondary data from 3 resources (National Statistic Office, National Health Security Office and Assumption Business Administration College Poll) is the method of this study. Results indicated that 61.2 million Thai populations was covered by National Health Security Office (97.94%). Regarding quality assurance of primary care unit, there was an increase in competency of health workers and compliances with the standard of hospital assurance (HA) or ISO 9001:2000, from 91.36% to 94.33%. Even though there were health service providers for 5 work days per week, but there were problems such as standard of health care, delayed of services, follow up / referral system, refusal of treatments by providers and quality of pharmaceutical products. Analysis of the 3 data sources indicated that the universal coverage insurance was able to: 1) decrease household expenses, 2) increase quality of life for Thai population, 3) find no definite direction of other health funding, and 4) prevent litigation by paying compensation for those who received medical treatment errors. Recommendations for universal coverage insurance program are as followed, provide enough cash flow for primary care units; control cost of pharmaceutical products and increase quality by using co-payment concept, local budgeting and combining other health funds.

SP-116

Did Patients and Primary Clinic Physicians in the "Family Physician Integrated Health Care Program" Have the Same Expectations of Health Care Services? Yi-Chun Chen¹, Weir-Sen Lin², Hui-Fang Chen², Li-Ching Chung²

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In 2003, Bureau of National Health Insurance (BNHI) promoted "the family physician integrated health care program (FPIHCP)" to offer a complete and continuous health care for patients in Taiwan. In this program, BNHI provided patients in this program with 24-hours telephone consultant, primary health care, referrals, etc. But, did the contracted clinical physicians have intentions to providing these services and can these services meet participants' expectations? The purpose of this study is to focus on what kind of health care services clinic physicians would like to provide with and how these services meet demands of patients in the program. Clinical physicians and patients involved in FPIHCP were recruited in this study. Questionnaires sent out for all of 163 clinical physicians in southern Taiwan and 106 returned. Patients were randomly selected to respond the questionnaire with consents. A total of 454 patient questionnaires were used in this study. Contents of the measurement included demographic variables, 24-hours telephone consultant, informing patients to having health checkup, etc. Data were analyzed by SPSS10.0 statistical

computer software. Differences between demographic variables and expectation items were analyzed by t-test and ANOVA. The physicians had lower willing to provide were 24-hours telephone consultant (3.1 ± 1.5), to inform patients to receive pap smear (3.7 ± 1.2), and to have health checkup (3.8 ± 1.1). But patients in FPIHCP have very high expectations in 24-hours telephone consultant service (4.4 ± 0.9) and informing them to receive Pap smear (4.1 ± 1.2), and to have health checkup (4.3 ± 0.9).

SP-117

Literature Review: Factors Which Influence the Coverage of Social Health Insurance in Mongolia ***Javkhlahbayar Dorjdagva¹, Enkhjargal Batbaatar¹, Tseden Purevdorj¹, Amir Shmueli²***

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In Mongolia, 95 percent of SHI coverage was observed after two years of the SHI system introduction in 1994, declined to 87.6, 74 percent in 2000; 74 percent in 2006. Aim of the research is to describe factors which influence the SHI coverage in Mongolia and examine their effect on the coverage so that appropriate recommendations can be made to Policy makers. This review is based on various papers selected from a variety of Health journals, health financing documents obtained from WHO, WB and other sources. The results of this research suggest that differences in lifestyle, economic situation and administrative capacity of the SHI organizations in the urban and rural populations were the primary reasons for the existing differences in the coverage between these two populations. The cessation of insurance premium government subsidies for the students and herdsman from low income and vulnerable group is the main reason for recent decline of the SHI coverage. The decline of the SHI coverage of the country can be further explained by the marked reduction of the SHI coverage in the rural part of the country but also very low increase in rate of coverage in urban areas. Improving the management of collecting premium according to the traditional lifestyle of the people in the rural areas and including student's premium for SHI in the university's tuition fee in order to increase the SHI coverage for students are recommended strategies to increase the SHI coverage of Mongolia.

SP-118

Physician Characteristics Associated with Repeat Use of CT and MR Imaging ***Dachen Chu¹, Ran-Chou Chen¹, Heng-Ching Lin², Tom Chen³, Sheng-Tzu Hung², Nai-Wen Kuo², Pesus Chou¹***

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Object: Use of high-cost imaging modalities, such as computed tomography (CT) and magnetic resonance (MR) imaging, has increased 50% between 2000 and 2004. Repeated examinations account for one-third of these high-cost radiological examinations. The purpose of this study is to evaluate the relation between physicians' characteristics and repeated CT and MR imaging within 90 days, using a nationwide population-based dataset from Taiwan's National Health Insurance system.

Methods: All physicians who ordered CT and MR imaging examinations between 2004-2005 were identified. We analyzed the total number of CT and MR scans, the number of repeat scans and the repeat scan rate, according to physician characteristics (specialty, age, gender, and practice hospital). A multivariate logistic regression analysis was performed to explore the adjusted relationship between physician characteristics and their rate of ordering repeat CT and MR imaging. **Results:** A total of 16,307 physicians were responsible for a total of 2,152,292 CT and MR scans during 2004-2005 in Taiwan. The repeat scans accounted for 21.5% of the total. Male physicians and physicians aged 41-50 years ordered more repeat scans. Internal medicine is the most frequent repeat users of CT/MR scans. Internal medicine physicians ordered 44.3% of all scans, and 50.6% of all repeat scans. Surgeons ordered 40.4% of total scans, and 38.5% of repeat scans. Family doctors, OBS/GYN, and pediatrics rank the last among the specialists. Physicians who practice in medical centers ordered the most CT/MR scans. **Conclusion:** Our study shows that repeat use of CT and MR scans is related to physicians' characteristics.

SP-119

Hospitalization Costs of the Acute Hepatitis a Cases in Mongolia

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Background: Hepatitis A (HAV) was reported 35 per 10 000 in Mongolia in 2008, which increased by two times in comparison with cases registered during 2003-2007. An outbreak of hepatitis A has been ongoing with 18 230 confirmed cases reported in 2007-2008.

Objective: The objective of this study was to analyze data of the morbidities, average stays in hospital and costs associated with the hospitalization of hepatitis in 2008.

Methods: Data on epidemiological characteristics of hepatitis A for children aged 0-15 who admitted to the National Center for Communicable Diseases collected by the Health info Data Set. National hospitalization rates were calculated for hepatitis A. Morbidities, mean and average length of stay to hospital, and mean medical cost of hospitalization were analyzed.

Results: The total number of hospitalized patients with hepatitis A diagnosis was 1291 subjects. Fifty one

percent of hospitalized hepatitis A was diagnosed among boys. The average stay in hospital caused by hepatitis A was 12 days. Total cost of treatment was 6 677 USD per all subjects in a year, it comes from budget of the public hospitals. Estimated 110 251 USD per year expended by Health Insurance Fund, however patients spent 109 353 USD out-of-pocket payment for hospital services in 2008. Forty four percent of the family income goes to the non-medical cost.

Conclusions: During the wide outbreak hospitalizations, ambulatory visits, and their medical and non-medical expenditures due to hepatitis A cases have been increased among all age groups in the country.

SP-120

Analysis of the Impact Factors of Hypertension Refill Prescription on Healthcare Utilization in Taiwan

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Background and objectives: Because aging of population and change of lifestyle in Taiwan, the type of disease is transformed from acute infectious disease into a chronic disease, and ages fast of population structure. And the number of out-patient clinic has always been high since the Health Insurance starting, therefore the Bureau of National Health Insurance in order to reduce unnecessary outpatient amount, they encouraged physicians who treat chronic patients with stable condition can use chronic refill prescription.

Methods: This study data files provided by the National Health Research Institute in 2006 and its name is million sample date. With the assistance of the Bureau of National Health Insurance, the researchers linked the Ambulatory care expenditures by visits data(CD), and the Details of ambulatory care orders data(OO). The study was conducted on a nationally representative sample of 909,325 beneficiaries and local in 2006.

Results: Study found that the prescribe ratio is raise (28.78%), but the ratio of the second dispensed only the original half of the prescribe (47.33%), while the third is a lower percentage (only 23.94 %), shows the effect is poor that implementation of chronic refill prescription in Taiwan

Conclusions: The results can be seen, if you would like to enhance the effectiveness of the implementation of refill prescription, not only Physicians need to raise the ratio of the prescribe of refill prescription but also People need a good habit of medical treatment, recommendations should continue to promote knowledge of refill prescription on people.

SP-121

Development and Validation of an Instrument to Identify Patients with Knee Osteoarthritis in the Community

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Introduction Osteoarthritis (OA) is the most common form of joint disease in the world. Objective To develop and validate an instrument to identify patients with knee osteoarthritis in the community Methodology An instrument was developed after selecting an appropriate definition and classification criteria to identify knee OA patients in the community. Definition and the clinical only criteria for classification of OA of the knee given by the American College Rheumatism were selected following perusal of literature and "Delphi" technique. Selection of appropriate pain and stiffness scales was achieved by the Principal Investigator (PI) and the supervisor who is a specialist in rheumatology.

Judgmental validity of the instrument was assessed by the panel of experts. Criterion validity was determined by assessing 93 patients with knee OA and 67 patients with knee pain of other origin who have attended the Rheumatology Clinic at Colombo South Teaching Hospital. Consultant Rheumatologist's diagnosis was considered as the Gold Standard. Results An instrument comprised of 22 items was developed and named as Knee Osteoarthritis Diagnosis Instrument (KODI)-Sinhala. Experts who participated in the opinion survey proved the judgmental validity. Criterion validity was assessed by calculating the sensitivity (90.3%) and specificity (88%) of the KODI-Sinhala by comparing the final diagnosis made by the Consultant Rheumatologist with that of the PI. High reliability of the instrument was confirmed by high test re-test reliability (kappa statistic = 0.96, 0.97). Conclusion: KODI-Sinhala was found to be a valid and a reliable instrument.

SP-122

Do Non-Communicable Diseases Cluster in Suburban Settings in Sri Lanka?

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Background: Non communicable diseases (NCDs) are on the rise in Sri Lanka owing to the demographic transition and change in lifestyle and environment related to recent urbanisation. They tend to occur early and follow a severe course.

Methodology: A cross sectional study was carried out in Pitakotte health area, which is a suburban setting located in the district of Colombo. A total of 100 households were surveyed using a cluster sampling method. Household and individual information on common NCDs ever diagnosed by a medical person was collected by public health midwives using an interviewer-administered questionnaire.

Results: Amongst 325 adults ≥ 18 years of age (Mean age=43.7, SD=16; Females=52.9%, n=172), diabetes mellitus was the most common NCD (10.2%, n=33) followed by hypertension (9.5 %, n=31) and elevated lipids (7.1%, n=23). Heart disease was least prevalent (3.7 %, n=12) with only 66.6% currently on treatment. At individual level, more than one fifth of the adults (21.8%, n=71) had at least one of the above mentioned NCDs. Of them, 18.3% (n=13) had 2 NCDs, 4.2% (n=3) had 3, and 4.2% (n=3) had 4 NCDs. Majority of these 71 individuals were females (56.3 %, n=40) with a mean age of 54.8 (SD=13). At household level, 55% of the households had at least one person with a NCD with an average percentage of 39.9% of NCD patients per household.

Conclusion: NCDs cluster within individuals as well as at household thus factors associated with NCDs need to be identified at these levels.

SP-123

Prediction Factors for Readmission in Heart Failure Patients in National Cardiac Center Harapan Kita **Mawar Trimawartinah¹, Pandu Riono¹, Bambang Siswanto²**

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Background: Readmission event in heart failure patients is one of the biggest problem than any other degenerative diseases. High cost is a burden for people and the country. In USA, since 1979 readmission event has increased 164% and has reached \$ 29 billion, mean while Canada spent the half of health cost for heart failure patients which reached 1.4 billion dollar Canada for 3 years (year of 2000-2003). Because of that it is important to know what factors that influence readmission event in heart failure patients

Methods and Results: This research used cohort retrospective design; observation has been done retrospectively for two years (2006-2008). The number of sample size is 158 which collected from medical records. We used Cox Regression as data analysis. Factors that influence readmission event are health insurance, compliance, asthma, myocardial infarct, heart rate, and age.

SP-124

Cancer Is one of the Leading Causes of the Morbidity and Mortality among the Population of Gobi Zone, Mongolia

Enkhsaikhan Tsedensodnom

Director of Health Center of Dundgobi province, Mongolia

Background: An administrative unit of the aimag consists of 15 somon, 68 bug, population of 47959 and the age group structure - 31.41% is 0-16, 19.70% is 16-25 year old children, 25.74% is 30-49, 8.30% is 50-65 year old people and 5.1% is over the age of 65. Top 5

mortality causes are the following diseases in the year of 2008. 1. Circulatory system disease, 2. Cancer, 3. Trauma, 4. Respiratory organ system disease, 5. Gastrointestinal organ system disease In 2008, 4267 people was diagnosed with cancer and 3033 people died from this disease in our country.

Study result: From 2004-2008 or in last 5 years, 421 new cases of cancer were registered and 326 people died from cancer. Percentage of early cancer detection was 16.5% in year 2004 and 26.7% in year 2008. Study of the cancer morbidity rate for the year 2008, liver cancer occupied the first place /36.0%/, lung cancer the second /18.6%/, cervical cancer the third /9.3%/, oral cavity and esophageal cancer the fourth /6.9%/, and stomach cancer was in fifth place /5.8%/. Percent of late stage diagnosis of liver cancer was 92.3% in 2004 and 68.7% in 2008. Mortality from cancer was increased from 25.3 in 2004 to 30.9 in 2008, per 10'000 population. Conclusion 1. Liver and lung cancer were predominant in overall cancer cases. 2. Cancer prevalence showed tendency to increase year-over-ye

SP-125

The Study for the Prevalence of Metabolic Syndrome and Its Associated Factors among the Elderly in Taiwan

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Metabolic syndrome has become a significant factor related to cardiovascular disease. The aims of the study are to analyze the prevalence of the metabolic syndrome of the elder and the related factors in Taiwan. We used the data from the Elderly Nutrition and Health Survey in Taiwan (NAHSIT) conducted during 1999-2000. The definition of Metabolic syndrome was drawn from the criteria announced by the Department of Health, Executive Yuan, Taiwan in 2006. The SPSS software version 12 was employed for the statistical analysis. The results found that the prevalence rate of the metabolic syndrome in Taiwan elders is 40.0%, the figure is 50.2% in female and 30.3% in male, the people who aged 65 to 69 have the highest rate of 43.8% and the lowest rate (22.1%) was found in the elder who aged over 80, the difference of the prevalence rate between the different sex and age groups both reached the significant difference ($P < 0.05$). We also found that the people who married, lower income, vegetarian and alcohol drinkers have higher prevalence rate of metabolic syndrome. Besides the above factors, the result of the logistic regression found that the people who ate poultry less than 5 times a month had the higher tendency to have the metabolic syndrome than the people who ate poultry more than 5 times a month, the OR is 1.37 ($P < 0.05$).

SP-126

Projection of Mortality of Cardiovascular Diseases of Mongolia

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The percentage of non communicable diseases tends to stably increase among causes of mortality in Mongolia. The study was done by using descriptive study. As of 2007, ischemia is most leading cause of mortality of CVDs in nationwide. Moreover, as of 2015, this disease will remain as most leading cause of mortality, particularly in central region. Mortality caused by insult accounts for high percentage and as of 2015, it tends to increase up to 15.4, ischemia is up to 13.6 while arterial hypertension will decrease up to 1.7. The ischemia is also most leading cause of mortality in southern region and as of 2015, mortality rate of ischemia is estimated to be 15.7 which is twice lower than in central region. The mortality rate of CVDs tends to increase up to 27.6 as of 2015 in southern region. The mortality rate of insult and cardiac ischemia was in same level until 2003; however, since 2008 the mortality caused by ischemia tends to be priority. The mortality rate of CVDs were 20.8 in 2007 in capital city and as of 2015, it is estimated to be stable /20.1/. The mortality caused by cardiac ischemia and insult is in same level and as of 2015, it is projected to increase by 4.0 compared to current level, however, arterial hypertension tends to decrease. The mortality of CVDs among population of Mongolia is projected to be increased in regions differently.

SP-127

Occupational Health Services: Is Primary Health Care a Viable Plan

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With the onset of industrialization, the need to provide occupational health services (OHS) in this country was felt as far back as 1980s. Together, ministries of health, labour and education identified a strategy for providing OHS by integration with primary health care (PHC) system of existing national health services. To facilitate this integration, the Department of Community Medicine, Faculty of Medicine, University of Colombo, commenced training of medical and para-medical personnel of Health Department in occupational health and safety. The training was designed for medical officers in charge of the Primary Health Care (PHC) Units and public health inspectors responsible for occupational health and safety of the working community. The training has continued for over 25 years and has been extended to medical officers outside Health Department and has imparted knowledge and skills in promoting health and safety in the work place and among

working community. The training has generated a pool of resource persons who can play a key role in OHS at PHC level. This approach has maximized the coverage of work places through a community-based approach. Department of Health Services too has been successful in setting up two occupational health units in the western and southern parts of the country and is envisaged to establish more units in the future. Other support for development of OHS has been through research and development of training material.

SP-128

The Spatial Distribution and Habitat Characterisation of Aedes Aegypti and Ae. Albopictus around Tourism Area

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The knowledge of the spatial distribution of Dengue Vector Mosquitoes is important step to make planning and to implement effective vector control program. The study aims to analyses spatial distribution and ecological characterisation of artificial and natural breeding habitats of Aedes aegypti dan Ae albopictus. Larval collections were conducted in 182 houses located in eight villages around Bantimurung tourism area, South Sulawesi from March to April 2009. Data were analyses using Arcview GIS 3.3. The result shows that a total 447 breeding habitats sampled like plastics container (25.3%), earthen jars (23.3%), cements (17.9%), rubber tire (11.4%), metal containers (6.3%) and natural habitat (15.2%). Earthen jar is most habitat preference for Ae aegypti, while banana leaf, tire and drum are most habitat preference for Ae albopictus. Water temperature of habitat ranged from 25C to 34C with average 28.2 C for Ae aegypti and 28.6 C for Ae albopictus habitats, while pH habitat ranged from 5 to 8 with average 7.2. Larval density indicates were 81% House Index, 75% Container Index and 184 Breteau Index. Mostly larvae was identified as Ae. albopictus (81%) and less Ae. aegypti (18.8%). Ae aegypti habitats were found mostly in villages located along tourism area streets. It can be concluded that a few Ae. aegypti (as main dengue vector) was bred mostly in earthen jar in village located near tourism area.

SP-129

Implementation of OSH Requirements in SMEs in Malaysia

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Occupational Safety and Health issues are increasingly receiving attention and found as important in Malaysian Industrial Relations. In an operational analysis report of the Occupational Safety and Health Regulations (Penggunaan dan Standard Pendedahan Bahan Kimia Berbahaya Kepada Kesihatan) 2000 has found that 80

percent of more than 800 workplace investigated failed to adhere fully to regulations (Abdul Rahman, 2007). Mass medias are also continuously reporting various accidents at the workplace which results in deaths. As a developing nation, improvements to its workers safety and health issues should go hand in hand with Malaysia economic booming. With the increased number of its small and medium enterprise (SME), Malaysia is facing greater challenge to monitor that OSH requirements are adhered to in spite of trying to stay competitive and survive with its limited capital or financial resources. Limited capital would result in limited number of workforce on their payroll and efforts toward preparing an effective occupational health and safety code of practice. The United Kingdom recently had proposed Occupational Safety and Health implementation system scheme designed specifically to assist the small and medium enterprise to implement and fulfill the existing acts requirements effectively (Anonymous, 2007). United Kingdom Safety and Health Executive which has the enforcement authority of occupational health and safety in the country has identified the needs for leadership in the management of occupational health and safety matters. After making a comparison of implementation models of occupational health and safety of two developed nations namely United States and the United Kingdom, it is concluded that the involvement of various parties including the public in policy making, the development of appropriate infrastructure and human resources, enforcement autonomy, focused job scope within department, appropriate language usage, training inclusive of all forms of diversity at work and appropriate penalty are key success factors at reducing death rates, accidents and lost work days at the workplace for these two countries (Khoo, Kh'ng, Chee et al., 2007). Through questionnaire distributed to SME in the northern part of Malaysia, results were analysed and findings with regard to the implementation of OSH in workplace is discussed.

SP-130

Aircraft Noise Pollution Study and Community Annoyance: A Case Study of One International Airport in Thailand

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Aircraft noise exposure on the community surrounding the international airport in Thailand depends on the operation of airport. These may cause negative effects to residential area and workers in the airport. This research aimed to study noise pollution level generated from the airport and the annoyance in the communities nearby. The monitoring of equivalent continuous noise levels in 1 second (Leq. 1 s.) were carried out in 4 various positions at both sides of runway end and residential areas during aircraft landing and take-off. Noise exposures were measured consecutively in two days in

order to assess the relationship between aircraft noise levels and number of flight (landing and take-off) in the various time of the day. The level of aircraft noise exposure expressed by WECPNL (Weighted Equivalent Continuous Perceived Noise Level) so called aircraft noisiness index was investigated. Social surveys were also carried out to people living in the communities nearby. The results showed that the aircraft noise levels at measured locations were strongly associated with number of flight for each time of the day. Noise pollution problem was raised as one important problem generated from airport operation (84%). The noise exposure levels were higher than the WHO recommended limit that may cause annoyance and health risk to the workers who stay in the airside and people living in the community nearby.

SP-132

Prevalence and Patterns of Burnout among Nursing Officers Working in Government Teaching Hospitals in Colombo

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Introduction: Burnout, an important negative outcome of chronic occupational stress, is characterized by a syndrome of emotional exhaustion (EE), depersonalization (DP) and a sense of low personal accomplishment (PA). There is minimal information on burnout among Sri Lankan nursing officers.

Objectives: To determine the prevalence of burnout among nursing officers working in teaching hospitals in Colombo using the Maslach Burnout Inventory-Human Services Survey (MBI-HSS) validated to Sri Lankan context.

Methodology: A descriptive cross sectional study was conducted in six teaching hospitals in Colombo among a stratified cluster sample of 1356 nurses. The MBI-HSS validated to Sri Lankan context was used as a self-administered questionnaire and prevalence of burnout and its three dimensions were determined.

Results: The response rate was 90.4% (n=1356). Mean scores for EE, DP, PA subscales and total MBI were 14.5, 3.8, 34.7 and 24.6 respectively. Overall prevalence of burnout was 27.9% (25.51-30.29) with prevalence for subscales being: EE 26.4% (24.05-28.75); DP 17.8% (15.76-19.84) and PA 32.7% (30.2-35.2). Burnout was commoner among younger (OR=5.7, 3.6-8.9), unmarried (OR=2.1, 1.6-2.6) nursing officers and those working in paediatric wards (OR=7.3, 3.4-15.8) and ICUs (OR=7.4, 3.6-15.2) compared to OPDs/other units.

Conclusions: A considerably high proportion of Sri Lankan nursing officers in government teaching hospitals are having burnout.

SP-133

The Associated Factors of Insomnia among the Nursing Staffs in the Psychiatric Teaching Hospital **Chien-Cheng Kuo^{1,2}, Ming-Shun Chung¹, Hsien-Jane Chiu¹, Pesus Chou²**

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2. National Yang-Ming University, Taiwan

Objectives: The goal of the study was to explore the associated factors of insomnia among the nursing staffs in the psychiatric teaching hospital.

Methods : The study is cross-sectional and 124 nursing staffs were screened by the questionnaires which include the variables of the demographic data, stressor, work situation, and sleep condition. The job stress is screened by the Chinese Version of the Job Content Questionnaire. The subjects were classified into insomnia by the Chinese-version of the Athens Insomnia Scale- eight questions (CAIS-8) with the impairment of mood or daily activity.

Results : 37.9 % of the nursing staffs met the criteria of insomnia. The significant associated factors of the insomnia by logistic regression were having the problem in couple issue (OR=3.96), the work years at the hospital (OR=1.22), having methods to relieve the tension (OR=0.21), the decision authority (OR=0.88) for increasing one score of the item, and the psychological demands (OR=1.14) for increasing one score of the item.

Discussion : The response rate of this study is 83.8%, so the data is representative for study target. The different kinds of stress management program may provide to the nursing staffs in high risk of insomnia, such as who have do not know how to relief tension, or deal with their couple relationship, or cope stress in work. The risk of insomnia increases with the work years at hospital. The speculation is that the senior nurses have more duty other than take care patients, such as playing a role in the administration, teaching and study, so they feel more stressful than the junior ones.

SP-134

Accumulated Copper and Zinc in Lettuce Plantation in Soil Amended with Bottom Ash Ratios **Suthep Silapanuntakul¹, Prat Intraksit², Pisit Vatanasomboon¹, Kraichat Tantrakarnapa¹**

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2. Ubol University, Thailand

This study was conducted to determine copper and zinc accumulation in lettuce planted in sida soil amended with lignite bottom ash under laboratory conditions. Nitrogen, phosphorus and potassium in sida soil, bottom ash and sida soil added with bottom ash, and the lettuce yield were also investigated. Five ratios of sida soil added with bottom ash were tested. One-way ANOVA and LSD were used for the data analyses.

Results indicated that mixed sample ratio 0.6:0.4 had the highest copper and zinc accumulation (26.13±2.30 and

137.74±4.13 mg/kg). Copper and zinc accumulation in mixed sample ratio showed significant difference as bottom ash ratio increased ($p<0.05$). The highest copper and zinc accumulation was found at ratio of 0.6:0.4 in lettuce root (21.46±5.90 mg/kg and 113.47±4.13 mg/kg), followed by lettuce leaf (8.18±1.20 mg/kg and 32.94±7.34 mg/kg). The accumulation in root and leaf of lettuce was significantly different as bottom ash ratio increased ($p<0.05$). The highest lettuce yield was found at both ratio of 0.8:0.2 and 0.6:0.4 with 1.43±0.06 and 1.43±0.03 gm/plant, respectively. A significant difference in lettuce yield with the increase of bottom ash ratio was observed ($p<0.05$).

The results suggest that lettuce leaf at all ratios are not harmful for consumers. The lettuce leaf at all mixed sample ratios did not exceed the heavy metal contamination according to the Criteria of Food and Drug Administration.

SP-135

Correlates of Occupational Stress among Operational Staff Employees in Domestic Commercial Banks in A District of Sri-Lanka

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3. Sri Lanka Medical Council, Sri Lanka

Objective: To describe the correlates of occupational stress in operational staff employees of domestic commercial banks in the Colombo district.

Methodology: A cross-sectional descriptive survey was conducted among 733 operational staff employees in branches of commercial banks in Colombo district, proportionate to size of the operational staff strength, using cluster sampling technique. Validated, self-administered 22-item Sinhalese version of the Job Content Questionnaire assessed occupational stress categorized as high job strain and iso-strain according to demand-control-support model. Correlates were assessed using a 20-item self-administered questionnaire.

Results: Multivariate analysis showed that perceived anger due to work-related problems at home (OR=1.8; 95%CI 1.2-2.7), job insecurity (OR=2.0; 95%CI 1.3-3.1), lack of opportunities for promotions (OR=1.9; 95%CI 1.2-2.9), job dissatisfaction (OR=1.6; 95%CI 1.03-2.5), inability to cope with work stress (OR=2.0; 95%CI 1.4-3.0), delays in data processing (OR=1.5; 95%CI 1.002-2.1), age <35 years (OR=1.9; 95%CI 1.2-3.3) and marital status being unmarried, divorced or separated (OR=1.5; 95%CI 1.003-2.3) showed significant associations with high job strain ($p<0.05$).

Perceived anger due to work related problems at home (OR=1.8; 95%CI 1.1-2.9), perceived job insecurity (OR=2.7; 95%CI 1.65-4.4), perceived lack of opportunities for promotions (OR=3.5; 95%CI 1.95-6.2), perceived job dissatisfaction (OR=1.89; 95%CI 1.1-3.3),

perceived inability of coping work stress (OR=3.0; 95%CI 1.8-4.9), and service in the present bank ≤ 10 years (OR=2.5; 95%CI 1.48-4.2) showed significant associations with iso-strain ($p < 0.05$).

Conclusions: Career development correlates showed significant associations with high job strain as well as iso-strain among operational staff employees in the banks.

SP-136

Prevalence of Occupational Stress in Selected Categories of Employees in Domestic Commercial Banks in a District of Sri-Lanka

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Objective: To describe the prevalence of occupational stress among middle level managers and operational staff employees of domestic commercial banks in Colombo district.

Methodology: Two cross-sectional descriptive surveys were conducted among 353 middle level managers and 733 operational staff employees separately in branches of domestic commercial banks in Colombo district, proportionate to size of the staff strength, using cluster sampling. The validated, self-administered 22-item Job Content Questionnaire, assessed the prevalence of iso-strain and high job strain according to demand-control-support model.

Results: The prevalence of high job strain among operational staff employees was 24.4% (95%CI 21.5-27.3); [n=179] and it was significantly higher ($p=0.01$) than the prevalence of high job strain among middle level managers 17.8% (95%CI 15.1-20.5); [n=63].

The prevalence of iso-strain among operational staff employees was 14.5% (95%CI 12.1-16.9); [n=106] and it too was significantly higher ($p=0.04$) than the prevalence of iso-strain among middle level managers 10.2% (95%CI 8.1-12.3); [n=36].

High job strain among male and female middle level managers was 18.3% (95%CI 15.6-21.0); [n=40] and 17.2% (95%CI 14.5-19.9); [n=23] respectively and the difference between these two percentages were not statistically significant ($p > 0.05$). Iso-strain among male and female middle level managers was 10.5% (95%CI 8.3-12.7); [n=23] and 9.7% (95%CI 7.6-11.6); [n=13] while the difference was not significant ($p > 0.05$).

High job strain among male operational staff was 26.7% (95%CI 23.7-29.7); [n=92] and it was significantly higher ($p=0.04$) than the females 22.4% (95%CI 19.6-25.2); [n=87]. Iso-strain among male and female operational staff was 15.4% (95%CI 13.0-17.8); [n=53] and 13.6% (95%CI 11.3-15.9); [n=53] and the difference between the two percentages were not statistically significant ($p > 0.05$).

Conclusion: Operational staff employees perceived higher job strain as well as iso-strain than middle level managers in banks.

SP-137

Assessment of Usage and Disposal of Diapers among Caretakers of Children Under Two Years in Bangkok, Thailand

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This cross sectional study aimed to assess usage and disposal of diapers among caretakers of children in Bangkok, Thailand. The study was conducted in some communities in Bangkok from 30th January to 20th February, 2009 by accidental sampling. A total of 200 caretakers of children were interviewed. The findings of the study indicated that the respondents with good practice in diaper usage and disposal were 79.5% and 76.5% respectively. Approximately 73% of them were using disposable diapers and convenience was the main reason to use diapers. Only 10% of them had good level of knowledge on usage and disposal of diapers but only 6% of them had negative attitude towards diaper usage and disposal of diapers. Age of the respondents and age of the child were significantly associated with diaper use with p -value of 0.005 and 0.015 respectively. Sex of the respondents was associated with disposal of diaper (p -value=0.031). Attitude towards diaper disposal was associated with disposal of diapers (p -value = 0.009) while not associated with diaper usage. In conclusion, behavior change interventions to improve knowledge and attitude towards the diaper usage and disposal should be promoted among care takers.

SP-139

Plum Bum Level in the Air, Blood and Haemoglobin Level of Market Sellers in Ambon

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Market sellers who work in the streets have a big risk being exposed to plum bum. Plum bum in blood was influenced by plum bum level in the air, age, how long they work in the market, term of selling and smoking habit. The study objective was to analyze plum bum level in the air, blood and its effect to Hemoglobin level in market sellers in Ambon. Methods This research used a cross sectional design. Results There was a mean difference level of plum bum in the air at areas with many vehicles compared to areas with not so many vehicles. In addition, there was a mean difference of plum bum in the blood of market sellers in the area with many vehicles compared to area with not so many vehicles. There was also a mean difference of hemoglobin level in blood of market sellers in area with many vehicles. Level of plum bum in the air, how long

they work in the market, term of working and smoking habit influenced to plum bum level in the blood, but the most influence based on logistic regression is how long they work ($p=0.033$). Conclusion We conclude that plum bum level in air and blood is higher in market seller in the areas with many vehicles and how long they work contribute the most.

SP-140

Skin Lead Contamination of Family Members of Boat-Caulkers in Southern Thailand

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Wooden-boat building and repair involves the use of powdered lead oxide (Pb_3O_4 , or red lead) as one of the materials used in caulking. This study compared skin lead contamination of family members of boat-caulkers and control homes. It also examined the relationship of family member skin lead with floor lead loading and with dust lead content. Floor lead loading and dust lead content were measured in 67 caulkers' houses and 46 neighbourhood houses with no known lead exposure. In each selected household, wipe specimens of hand lead and foot lead were obtained from one selected family member. Hand lead loading and foot lead loading were significantly higher in family members of caulkers than controls (median 73.4 vs. 32.7 $\mu g m^{-2}$; $p=0.002$ and 84.9 vs 43.4 $\mu g m^{-2}$; $p=0.002$, respectively). This pattern mirrored floor lead loading and dust lead content, which were also higher in caulkers' than in control houses (median 121.2 vs. 43.5 $\mu g m^{-2}$; $p<0.001$, respectively). Multiple linear regression modelling revealed floor lead loading to be a better predictor than dust lead content for hand lead loading in all age groups and for foot lead loading in adult family members. In conclusion, skin lead levels are elevated in family members living in a lead-exposed worker's house and are correlated with the levels of household lead contamination.

SP-141

Comparison between Resident Handling and Workers' Health from Long Term Care Facilities in Central Taiwan

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Objectives: One of the major occupational injuries in LTC facility is the frequent heavy handling and repositioning of residents that exceed the handling

capacity of most nurses, nursing aides and orderlies. The purpose of this study is to identify the physically demanding duty for resident handling and movement, and to assess the self-reported occupational injuries among the workers as well as to explore their associations.

Methods: A cross-sectional questionnaire survey was conducted for nurse aides with participants of 204 (response rate 69.7%) from 7 LTC facilities in central Taiwan. The measurement tool contains 4 issues including personal information, resident handling and movement works, physical demanding works and self-reported health.

Results: It was found that transferring residents from chair to bed or bed to chair is the most physically demanding duties for resident handling. The most experience of self-reported injuries is the pain in the neck and shoulder. It is interesting to found that worker's injuries are correlated with the personal characteristics of age, education, number of resident care per day, license the self-reported health status. The most self-reported health problem is found in the item of headache, which includes the variables of age, education, heavy objects movement other than resident handling, license and work shift.

Conclusion: It has demonstrated that the physical demanding works are correlated with the self-reported health status. It has advocated for replacing resident handling and properly releasing workload of nurse aides in order to prevent their injuries.

SP-142

The Relationship between Neighborhood Petrol Station Density and Fetal Cord Blood Manganese in Taiwan

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Methylcyclopentadienyl manganese tricarbonyl (MMT) is widely used as substitute for lead containing anti-knocking additives in gasoline. This study was set to investigate the relationship between the concentration of manganese in cord blood and the density of petrol stations in the neighborhood as a surrogate of traffic density.

Materials and methods: In total, 1526 newborns were sampled by stratum from April, 2004 to July, 2005. Questionnaires were completed by mothers after delivery, which included demographic characteristics, medical history, and living environment. Cord blood samples were collected at birth and analyzed by inductively coupled plasma mass spectrometry. We used petrol station count (PSC) within 3 km buffer zone of the newborns' residence as surrogate for exposure to MMT-containing gasoline, based on 1343 geocoded addresses using the ArcView geographic information system. We correlated cord blood manganese and lead

concentrations with PSC using multiple regression model (SAS 9.1).

Results : The means of cord blood lead and manganese concentration were 14.3 and 49.9 µg/L respectively. Cord blood manganese concentration was significantly associated with PSC ($\beta=0.25$; $p<0.0001$) after adjusting for family income, maternal education, maternal smoking, alcohol drinking during pregnancy, maternal age, child gender, gestational age. No association was found between lead and PSC.

Conclusion: This ecological study found that fetal cord blood concentration was related to neighborhood petrol station density. This finding suggested that exposure to MMT-containing gasoline might have lead to fetal exposure to manganese.

SP-143

Analyzing the Factors That Are Related to the Occupational Stress among Nurses within the Overnight Hospitalization Unit of Dr. Tadjuddin Chalid Hospital Makassar 2009

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Objective: WHO stated that stress was an epidemic that was spreading around the world. Based on the results of a survey carried out by PPNI, around 50,9% of nurses in 4 provinces in Indonesia experience occupational stress, the symptoms such as dizziness, tiredness, difficulties in taking a rest which are caused by a large work load, time-consuming jobs, without any sufficient incentive. . The aim of this research is to analyze the relationship among occupational stress with work load, work shift, and type of personality of the workers. The samples of this study are 63 nurses in Dr. Tadjuddin Chalid Hospital, Makassar.

Method: This research uses the method analytical survey with a cross sectional approaching

Result: The result of this study reveals that based on chi square test and creames V test with prosperity level $p \leq 0,05$, variable work load ($p = 0,019$ and $\phi = 0,355$), work shift ($p = 0,029$ dan $\phi = 0,334$) are related to occupational stress. On the other hand, work relationship ($p = 0,188$) and type of personality ($p = 0,142$) are not associated with occupational stress.

Conclusion: There is a significant relationship among occupational stress, work shift, and work load. The researchers hope that the involved hospitals carry out the stress management techniques, manage the physical facilities in work areas, and provide workers with entertainment.

SP-144

Concentrations of Phthalates in Cup Water at Various Thermal Conditions

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Phthalate esters are commonly used for plasticizing in most plastic products, and some of them have been found to be harmful as environmental hormone. To determine how many phthalate esters could be dissolved in sealed plastic cup water in various thermal conditions, we conducted a factorial experiment model using split-plot design. The settings of the experiment were three temperatures (room temperature, 60 °C, 80 °C) and three baking times (2 hours, 4 hours, 8 hours) with three replications. Each water samples was extracted with n-hexane and concentrated to a volume of 0.5 ml for analysis of gas chromatography-mass spectrometry. The preliminary results showed that cup water contained micro amounts of phthalates, such as diethyl phthalate (DEP) and dibutyl phthalate (DBP); the amounts of phthalates, however, increased significantly after the cup water was placed at high temperatures during a certain period of time. Based on the precautionary principles, we suggest that cup water should be placed away from any sources of heat (e.g., sunlight) to reduce the intake of phthalates.

SP-145

The Study of Foundry's Crystalline Free Silica Exposure By Xrd

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Exposure to crystalline free silica for a long term may damage human respiratory system seriously. Foundry is the basal industry in Taiwan, the dust containing crystalline free silica is produced in the working environment. Environmental monitoring of crystalline free silica is very difficult, due to the analysis is not only complicated but also costly. The main purpose of this project is to explore an inexpensive alternative analysis with simpler process. First of all, we used the cyclone to test the usability and the uniformity. Second, we tested and took the method of Japanese JIS A1481 X-ray diffractometry. Third, we used the simple resources to build the calibration curve. Finally, we applied this method in the working environment and took this method. The results showed that the aluminum plated had a much better effect in identifying crystalline free silica. The all open-faced samples had good uniformity in the filter no matter how many middle. The calibration curve had a good correlation coefficient ($r=0.995$). Due to different industrial operating patterns, the industrial environment had the different concentration distribution. The dust consisted of 10- 30% of crystalline free silica in all samples obtained from the foundry environment. The crystalline free silica was accounted for less than 10% in the respirable dust. This simple and low cost method can become to improve the foundry working environment.

SP-146

Study of Employee's Lung Capacity in Cement Production Department of PT. Semen Tonasa Pangkep 2008

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Objective: Lung capacity is the amount of oxygen which is maximally inhaled into the whole body or lungs. Factors that affect lung capacity are age, work period, smoking habit, and exercising habit. The aim of this research is to depict employees' lung capacity in Production Department of PT. Semen Tonasa Pangkep in 2008.

Method: The research uses the method of observation with descriptive approaching

Results: The results show that based on age, the abnormal lung capacity is found mostly in young age, which is 61.1%. Secondly, the abnormal lung capacity is found mostly in people who have been working for 5 years or more, which is 57.9%. The abnormal lung capacity is found mostly in people who are categorized as mild (10 cigarettes/day) or non smokers, which is determined to be 57.1%. The workers who have an abnormal lung capacity are the ones whom exercise in a regular basis (thrice a week for 20-30 minutes), which is found to be 58.3%. The abnormal lung capacity is mostly found in people who do not put on masks properly while working, which is found to be 55.0%.

Conclusions: Workers with younger age, longer work period, mild smokers, and mistaking in using masks, and whom take a routine exercise mostly have an abnormal lung capacity. It is advised that the involved company encourage its workers to avoid the smoking habit and are recommended to use masks as self-protection equipment properly and the appliance of rules that bring about the usage of masks while working.

SP-147

Increased Kidney and Heart Disease Mortalities in 6-28 Years Follow-Up of the Taiwanese People Highly Exposed to Polychlorinated Biphenyls and Dibenzofurans (PCBS/PCDFS)

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Background: In 1979, approximately 2000 victims in central Taiwan accidentally ingested rice oil, which was contaminated with polychlorinated biphenyls/dibenzofurans (PCBs/PCDFS).

A follow-up study allowed for the comparison of 22-year (from 1985-2007) overall and disease-specific mortality between the Yucheng subjects (oil-disease in Chinese) and their neighborhood referents in Taiwan.

Methods: Overall and disease-specific mortality (classified by ICD-9 codes) was compared between Yucheng subjects and their neighborhood controls matched for sex and age (Yucheng:neighborhood controls=1:2.8). indirect standardized mortality ratios

(indirect-SMR) were calculated utilizing the Yucheng subjects' neighborhood controls as reference group. Results: Mortalities of digestive system and genitourinary system was increased in the Yucheng men, but not in women.

To be more precise, "nephritis, nephrotic syndrome and nephrosis" (ICD=580-589) were increased in Yucheng men. "Other forms of heart disease" (ICD=420-429) were increased in all Yucheng subjects, but not significantly so in either gender. Mortalities of "malignant neoplasm of lymphatic and haematopoietic tissue" (ICD=200-208) were borderlinely increased, (SMR=2.9, 95% confidence interval=0.9-6.8). Systemic lupus erythematosus (SLE) in females was highly increased.

Conclusions: Compare with the previously study in Yucheng people as compared to Taiwan population, this study found similar results in increased SLE and digestive system mortalities.

This study also found increased mortality due to heart and kidney diseases.

SP-148

Occurrence of Endocrine Disrupting Chemicals in Taichung Domestic Wastewater Treatment Plant, Taiwan

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Nonylphenol (NP) in non-ion surfactant and phthalate acid ester (PAE) plasticizers such as DEP, DBP, BBP, DEHP are endocrine disrupting chemicals (EDCs) in environment of concern. We conducted a study to measure NP and PAEs at a domestic wastewater treatment plant (WWTP) in Taichung city. Samples of raw wastewater and sludge were collected at the WWTP, extracted using HCL hydrolyzing method, and NP and PAEs were measured using HPLC. The results revealed that NP was detected in all samples, and PAEs like DBP and DEHP levels were higher in sludge than in influent. NP concentrations in influent ranged 4.2~16.2 mg/L, while concentrations DBP were greater than 0.2 mg/L. PAEs levels, higher in influent than in effluent. NP concentrations increased in effluent. This study showed that NP, DBP and DEHP are lipophilic chemicals which can be detected easily in sludge compared with wastewater. High concentration of these two groups of EDCs were discharged from the WWTP.

SP-149

Urinary and Fingernail Metal Concentrations in a Population Exposed to Airborne Pm2.5

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Recent studies have provided increasing evidence that lung cancer incidence is associated with exposure to airborne particulate matters of less than 2.5µm in diameter (PM_{2.5}). The mutagenic compounds, among them the carcinogenic metals, may play very important roles in carcinogenesis in lung. Urinary and fingernail metals are biological indices of metal exposure. In this work, we examined the metal content of nail and urine samples from traffic agents and compared the metal levels with metal composition of the airborne PM_{2.5} to which these traffic agents were exposed. Ambient PM_{2.5} samples were collected with personal air samplers while the agents were on duty and the metal content was determined by ICP-MS method. We also supplemented the study with a complete health check, and questionnaire about life style and medical history. Results: We have recruited 29 traffic agents in Hsinchu area to participate in the study. They were exposed to an ambient air with PM_{2.5} concentration of 39.5 to 244.8µg/m³. Urinary arsenic and lead concentrations were higher in subjects with abnormal triglyceride level; cadmium and nickel concentrations were higher in subjects with abnormal AST levels. Airborne PM_{2.5} As concentration was correlated to urinary As concentration (Pearson 0.424, p<0.05). Two subjects were diagnosed with lung pulmonary fibrosis through chest X-ray (n=25, 8%).

SP-150

Modification Genes for CYP1A2 Inducibility among People Exposed to Polychlorinated Biphenyls(PCBs) and Dibenzofurans(PCDFs)

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Background: Approximately 2000 people were exposed to rice oil contaminated with PCBs and their heat-degradation products, mainly PCDFs in central Taiwan in 1979. CYP1A2 activity was found to be induced by such exposure in exposed individuals. The aryl hydrocarbon receptor (AhR) pathway was known to be critical in mediating such enzyme induction. AhR nuclear translocator (ARNT) and AhR repressor (AhRR) played important roles in transcriptional regulation of AhR.

Objective: To determine whether the ARNT and AhRR polymorphisms are associated with individual inducibility of CYP1A2.

Method: Among the people exposed to PCBs/PCDFs and their community controls, 173 previously participated in a study on CYP1A2 activity as measured by caffeine metabolic rate, which was in turn found to be positively associated with serum 2,3,7,8-TCDD toxic equivalency (TEQ). Genotyping was done for the following SNPs :

AhRR:(rs2292596)(C/G),
 ARNT:rs7517566(A/G),rs3820541(C/G),rs3768016(C/T), and rs2228099(C/G).

Result & Conclusion: At a similar TEQ dose range, those subjects with AhRR GG genotype had the highest induced CYP1A2 activity, ;Those with CC genotypes had lowest inducibility (p<0.05). ARNT(rs3768016) CC genotype had highest inducibility, followed by CT and TT genotypes. ARNT (rs2228099) GG genotype had highest inducibility, followed by CG and CC genotypes. We conclude that AhRR and ARNT genotypes might interact with PCBs/PCDFs in cytochrome P450 enzyme induction effects.

SP-151

Exposure Monitoring on Respiratory and Dermal Routes and Biological Monitoring of Para-Dichlorobezene in Repellent Workplace

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Objective: To explore the relationship between ambient and dermal exposure p-DCB concentrations. In addition, to explore whether the accumulation of the urinary 2,5-DCP existed or not, and to determine the metabolic kinetic parameters of urinary 2,5-DCP.

Method: 16 p-DCB-exposed workers were selected to monitor their ambient p-DCB exposure levels, skins exposure dose, and urinary 2,5-DCP levels at both pre-shift and post-shift during 3 consecutive day. Eight p-DCB processing workers were chosen to monitor 24-hour urinary metabolites of p-DCB for set up the metabolic kinetic parameters.

Result: The geometric mean and standard deviation of ambient p-DCB concentrations were 15.1±1.37 ppm. The geometric mean and standard deviation of skin exposure levels of p-DCB were 5.65±2.35 µg/cm² and the highest level was found in palm, neck was the lowest. The geometric mean and standard deviation of differential values of pre- and post urinary p-DCB and 2,5-DCP were 0.45±8.49 及 1.75±3.65 µg/L respectively, and only showed significant correlation with skin exposure levels of p-DCB. The statistical data of three-days urinary p-DCB levels showed that the urinary p-DCB were not accumulated, but the urinary 2,5-DCP levels significantly raised with the sampling time. The half life of urinary 2,5-DCP was estimated as 4 hours. According the walk-through records of the plant, the personal protective measures were suggested to effectively reduce the exposure of p-DCB.

SP-152

Occupational Herniated Intervertebral Disc (HIVD) in Taiwan-Physical, Occupational and Genetic Interaction

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Background: Herniated intervertebral disc (HIVD) is listed as an occupational disease in Taiwan's workers' compensation system. Known occupational risk factors include heavy lifting, whole body vibration, awkward posture and heavy physical activities. Nevertheless, the contribution of personal factors, e.g. genetic factor, is considered as an important role of causing HIVD in recent studies.

Purpose: We recruited highly weight-lifting exposed fruit wholesaling workers to determine the roles of genetic susceptibility in especially highly exposed workers.

Study Design: For a higher exposed population, total of 112 workers working for more than 2 years in the fruit market were invited in this cross-sectional study. Every participant was assessed with questionnaire, MRI and BMD assessment, blood testing and genomic analysis, photographs taken of simulated working posture and lumbar load estimation.

Result: We found that cumulative lift load was associated with risk of HIVD. Among those highly exposed to lifting, i.e., $\log_{10}(\text{lift load}) > 6.5$, COL9A2 carrying a Trp allele was a susceptibility factor for women to have HIVD. In male fruit workers, such susceptibility factor was not witnessed. It could be due to high lifting load resulting in undifferential damage to the intervertebral discs among male fruit workers.

Conclusion: COL9A2 with any Trp allele seemed to interact with lift load and played susceptibility factor among workers exposed to weight-lifting.

SP-153

A Study on the Relationship among Work Characteristics, Working Pressure and Health-Related Quality of Life (SF-36 Scale) of Psychiatric Nurses- The Influence on Hospital Moderating Effects

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Objective: The purpose of this study is to investigate the relationship among job characteristic, working pressure (effort-reward imbalance model (ERI)) and health-related quality of life (SF-36) in psychiatric nurses. Furthermore, it also examines the cross level influence between group and individual level.

Methods: Hierarchical Linear Modeling analysis hospital variables for the hypotheses in a sample of 852 psychiatric nurses and 39 general and psychiatric hospitals.

Results: The results showed that subjects' ERI and over-commitment (OVC) showed significant negative

correlation with health-related quality of life variables. And subjects' general health (GH) in psychiatric hospital was significantly superior to subjects in the psychiatric department in general hospital. And, subjects' mental health (MH) in public hospital is also significantly superior to subjects in non-public hospitals. Moreover, in the interaction of HLM, only hospital categories have moderating effects. It means that different hospital categories (psychiatric hospitals and psychiatric department in general hospitals) moderate the relationship between ERI and health-related quality of life variables.

Conclusions: When psychiatric nurses suffer from the problems of ERI and OVC in working environment, their health condition tends to get worse. However, the GH of subjects who work in psychiatric hospitals is better than those who work in the psychiatric department in general hospitals. Moreover, the MH of subjects working in public hospitals is also better than those who work in non-public hospitals. Furthermore, the negative influences between ERI and health-related quality of life was stronger when psychiatric nurses who work in psychiatric department in general hospitals.

SP-154

Exploring the Relationship among Demographic Factors, Job Factors, Job Perception, Other Job Opportunities and Turnover Intention of Nursing Staffs

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Objectives: To explore: 1. attitudes of nursing staffs toward job perception and turnover intention; 2. the relationship among demographic factors, job factors, job perception, other job opportunities and turnover intention.

Methods: Nursing staffs of regional, district hospitals and clinics were enrolled in the survey, in which 1,767 self-administered questionnaires had been collected, with a response rate of 64.84%. The data was analyzed by structural equation modeling, with confirmatory factor analysis and path analysis to explore the relationship among above factors.

Results: 1. Nursing staffs have a lower level of job perception and a higher level of turnover intention. 2. Job perception is a significant and negative predictor of turnover intention (coefficient β : -0.328); Other job opportunities is a significant and positive predictor of turnover intention (coefficient β : 0.310). Among all demographic and job factors, nursing staffs with a higher education level, with a formal job, and with a daytime work (instead of a night-shift work) grossly have a lower level of turnover intention. Nursing staffs who are rookies in the nursing profession have a higher level of turnover intention.

Conclusions: The mechanism for turnover intention of nursing staffs is multi-factorial and also multi-level.

Nursing staffs with a lower job perception and a higher opportunity of other job have a higher turnover intention. Turnover of nursing staffs is an important issue to the management of health care organizations. This study may serve as a reference and utility for nursing staffs and medical managers who focus on researching or solving this problem.

SP-155

In-Flight Medical Emergencies and Public Safety in Hong Kong Commercial Aviation

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Background: With increasing globalization, commercial air travel has become more accessible. More passengers present with in-flight medical problems, and critical illness may lead to aircraft diversions or in-flight death. The study objective was to examine the predictors of medical diversions and in-flight deaths among passengers who present with in-flight medical problems. **Methods:** Retrospective cohort study of in-flight medical problems for a large commercial airline based in Hong Kong. All passengers with in-flight medical problems for whom emergency medical advice (MedLink) was sought from December 2003 to November 2008 were studied. For each passenger set variables were collected, and those with recorded outcomes of diversion and death were identified. The variables associated with diversion and death were identified using t-tests, the chi square tests and logistic regression analysis.

Results: There were 4068 medical emergencies with 46 diversions and 30 deaths in the five year study period. Increasing age, altered mental status and the use of an automated external defibrillator (AED) were significant risk factors for both diversions and deaths. For passengers aged 81-90 years who presented with medical problems, the odds ratio for diversion increased to 15.2 compared to 11-20 year olds. Passengers who were unconscious were 33.4 times more likely to require diversion and 234 times more likely to die.

Conclusions: Public awareness of potential medical risks during flights and prescreening of passengers are important in preventing in-flight medical emergencies. Improvements in the reporting system are necessary to improve our understanding of in-flight medical emergencies.

SP-156

Self Efficacy & Sociocultural Factors: Impact on Condom Practices & Condom Programming

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Malaysian married men's low condom use, at 6.9%, is a serious challenge to its national efforts to halt rising HIV/AIDS. Individual and sociocultural factors impact

on condom practices. A mixed methods study of 240 urban respondents (68% male, 32% female) was conducted to assess condom practices and barriers (individual and sociocultural factors) through survey and 6 Focus Group Discussion (FGD). 40% of the sexually active respondents ever used condoms and 33% never used. Majority did not use condoms at first sexual intercourse, or with primary partners. Self efficacy barriers included low confidence in condom use, condoms tearing, semen spillage, and interrupted choreography of condom use. Other individual factors were decrease in sexual pleasure, "lazy" to use condoms and embarrassment when buying condoms. However, FGD findings revealed sociocultural factors underlying self efficacy/individual barriers: men's culture of resistance to condom use based on male privilege to sexual pleasure; male anxiety about interruptions, fear of losing erection and failure to ejaculate based on norms of masculinity and sexual prowess. Cultural inhibitions and non-acceptance of sex among the young, unmarried, and of diverse sexual orientations explain men's embarrassment in buying condoms. The complex interrelationship between self efficacy/individual barriers and sociocultural factors call for comprehensive condom programming and promotion. It should incorporate strategies that desensitize the condom, behavioral change communication, improved access and availability of condoms; and targeting masculinity and condom resistance through promotion of gender equality and male responsibility towards safe sex.

SP-157

Breast Health Awareness and Practice of Breast Self Examination (BSE) among Female Adults in Malaysia

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Breast cancer is the most common cancer amongst Malaysian women. It is known that knowledge and self awareness about early detection of breast cancer could encourage women to carry out Breast self examination (BSE). Thus, the objective of this study is to document the levels of knowledge, attitudes and practice of BSE among rural women in the state of Pahang, Malaysia. **Methodology:** A cross-sectional study was conducted among 1079 females aged between 20 and 60 years that were selected from five districts by random sampling to represent the population of Pahang, Malaysia. **Results:** Generally, there was a very high degree of awareness among the females in all the districts. About half (53.3%) of the information regarding breast cancer were obtained directly from the healthcare sector, while mass media contributed only 32.3% in providing awareness of breast cancer. It is encouraging to note that more than 62.6% had ever practiced BSE and more than 60% of those who do BSE practiced it once a month. Self awareness of breast cancer was reported to be the main factor (74.1%) that encouraged the females to practice BSE. Out of the

10% of the females that had ever detected any lumps in their breast, 77.8% of them had sought professional help. Conclusion: The practice of breast self examination among adult females in Malaysia depends much on the various socio-demographic characteristics especially the level of education and exposure to the knowledge of breast cancer.

SP-158

The Measure of Continuity of Care- Analysis and Application

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Objectives: 1. To seek for a suitable measure of “Continuity of Care”(COC) for Taiwan. 2. To apply the suitable measure to examine the relationship between COC and care outcome. **Methods:** We designed a questionnaire of COC measures assessment and sent out to 21 professors/doctors who were familiar with the research issue or healthcare quality. The data of association analysis came from National Health Insurance research database. Logistic Regression and Negative Binomial Regression were used to examine the relationship between COC and hospitalization and emergency department visit.

Results: According to the descriptive analysis of the questionnaire, there was no consensus about the best COC measure in Taiwan. However, among the COC measures based on claims data, COCI was the most stable indicator when taking the number of ambulatory visits into account. COCI and MMCI were used as COC indicators in the regression models. The analysis was carried-out by two separate subsamples: patients with non-chronic disease related visits (n=49803) and with chronic disease related visits (n=14172). Results from the regression models showed that people with high COC had lower likelihood and fewer number of utilization in hospitalization and emergency department visit for patients in both sub-sample.

Conclusions: There is no consensus on what kind of COC measure is the most suitable for Taiwan. Nevertheless, we suggest that COCI is good for researchers in Taiwan. Furthermore, this study also supports that higher COC is associated with lower risk and frequency in both hospitalization and emergency department visit.

SP-159

Effect of Fish Concentrate Capsule on Post-Op Patients at orthopedic Division, Wahidin Sudirohusodo Hospital, Makassar, Indonesia

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A kind of fish called snakeheads contents higher albumin than other fishes. The study was to assess effect of fish concentrate capsule on albumin serum, nutrition intake,

mid upper-arm circumference (MUAC), and wound healing process. This was a quasi experiment pre-post test with control. The subject were post-op patients with open healing that divided into two groups(n=13 each), intervention group (IG) who received fish capsule and diet high calorie protein program from hospital, while the control group (CG) just obtained diet high calorie protein program. Measurements were conducted before and after ten days intervention including albumin, nutrient intake and MUAC. Data was analyzed using paired and independent t-test. The study showed that there was a significant different before and after at IG of albumin serum, intake of energy, protein, lipid, carbohydrate and zinc (p 0.05). On the other hand, there was not a significant different in CG on albumin serum and nutrient intake (p >0.05), except to MUAC (p < 0.05). By using, wound healing indicator, there was 4 days faster in intervention compared to control groups. Different changes between intervention and control groups for albumin, intake energy, protein, lipid, carbohydrate and zinc were 0.7g/dl, 654kcal, 25.2g, 22.8g, 89.5g, and 2.7mg respectively. We conclude that providing fish (snakeheads) capsules for ten days to post-op patients can increase albumin, nutrition intakes and wound healing.

SP-160

Impacts of a Government Social Franchise Model on Service Utilization and Client Satisfaction at Commune Health Stations in Vietnam

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While franchising private RHFP services has been found to improve service quality and utilization in developing contexts, there is very little evidence to demonstrate that franchising RHFP services improves service utilization in the public health clinics. This evaluation study assesses the impact of a social franchise model of reproductive health and family planning services tested first time in the public communal health stations (CHSs) in two provinces of Da Nang and Khanh Hoa in central Vietnam. Data collected from CHSs' client visit counts and surveys of 1181 users and would-be users in the communities conducted at baseline, six months, and 12 months following the full implementation of the model. Data on client visit counts indicate that franchise membership is significantly associated with an additional 51% reproductive health clients, 40% general clients, and 45% family planning clients. Client survey found a positive association between franchise membership with community perceptions of service quality, client satisfaction, and their likeliness to return and recommend others to low cost, community-based reproductive health and family planning services provided at the local CHS. This positive finding suggests that the integration of franchising into provision of reproductive health services

at the CHS level offers an opportunity for a feasible and sustainable business model in primary public health care in Vietnam.

SP-161

PHC or PHC: The Rural Communities' Needs for Health Care

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Background: Primary Health care (PHC) in more deprived areas or in rural communities seems to be being changed to another PHC-Priorities in Health Care.

Objective: to assess the priority health needs of the rural Qazvin to design interventional community based research to solve their problems.

Methods: Both quantitative and qualitative methods were applied. A random sample of 500 rural households were selected and the heads of the families were interviewed through structured questionnaire. Besides, focused group discussion and deep interviews with the people, GOs, NGOs and the informant persons were organized.

Findings: About 95% of the target population are under coverage of primary health network of the government and their health needs are changing from basic needs such as immunization, sanitary water, infectious disease control, family planning, mother and child care towards more complicated or sophisticated needs. For example, nutrition and cooking habits are changing to the urban patterns, their environments are polluted with deterioratable material, persistent pollutants, non-communicable diseases are going to be more prevalent, aged problems are increasing, their psycho-social needs are growing towards semi-urbanized societies, the drug abuse and smoking is going to be common among the young etc. They refer to public or private medical centers to get the services and the rural health centers under PHC network can not satisfy their increasing needs.

Conclusion: PHC mission in the rural communities should be revised and reoriented towards the new PHC: Priority Health Care services to respond the transitional communities' health needs.

SP-162

Perception towards Hand Washing among Caregivers in Thai Households with Influenza Infected Child, Bangkok, Thailand : A Qualitative Study

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This qualitative study aimed to describe perception towards hand washing among Thai caregivers within the context of non-pharmaceutical intervention study to reduce influenza transmission. Caregivers and confirmed influenza infected child were enrolled. The in-depth interview was conducted at each participant's house

during November 2008 and May 2009. Twenty-five caregivers taking care of children's illness were interviewed. Most of them are female (24/25) with the age ranging from 22-47 years. The interviews elicited details of perception on benefits of hand washing, availability of hand washing facilities, barriers and educational approach to promote hand washing. Findings indicated that caregivers perceived that hands carry germs and transmit diseases such as diarrhea, conjunctivitis, parasitic diseases, skin infection and influenza. Hand washing reduces germs, minimize diseases-transmission and is the most economical preventive practice comparing with other preventive measures such as vaccine. Hand washing facilities include sink, running water tap, soap/detergent and towel are always available, convenient and enough for members. Barriers to adherence include being busy, in a hurry, unaware, forget and inconvenient. Participants stated that their children were unaware of benefits of hand washing; thus, ignored the practice. They also believed that community-based hand washing promotion, home-based education with written materials and individual training would be useful to modify hand washing behaviors among family members. In conclusion, caregivers revealed positive perception towards hand washing. Having caregivers to promote hand washing will be a key to successfully modifying hand washing behavior in households.

SP-163

KAP Survey on All Residents for Effective Behavior Change on Healthy Lifestyle and Healthy Diet-Community Participation Activities in

Kiyokawa-Village, Japan

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Objective: To promote healthy lifestyle and healthy diet by participation of community residents, we organized KAP Survey (Knowledge, Attitude and Practice) to clarify current consciousness of residents.

Method: We classified residents into 5 age groups for survey. Recovery rates were as Infants 57%, Pupils 99%, Teenagers 53%, Adolescents 36%, and Seniors 51%. Questions were common issues of attributes, health consciousness, eating habit, food, exercise, sleep, mental health, smoking, drinking, dental health, healthy measure, etc. sorted-out by priority of concerns of each age group. And age-group specific items. We analyzed collected data by Simple tabulation, Sex-Age tabulation and Cross analysis between all items by sex using chi-square test.

Result: Health status of "Very healthy" was 63% in infants, but it was decrease by age then it comes 10% in

seniors. As a measure for health, "Sleep well" was top in infants, and "Eat breakfast everyday" was top in other ages. Subjects of "Eat breakfast everyday" were high of 95% in pupils and 96% in seniors, and relatively low of 85% in teenagers and 96% in adolescents, but these figures were higher compared to other surveys in Japan. Subjects who didn't practice exercise were highest in adolescents of 40%, and lowest in pupils of 10%. Conclusion: Results from KAP Surveys were quite suggestive for further planning for healthy lifestyle and healthy diet, for effective interventions of behavior change, based on characteristics of target groups. We are organizing working groups for planning by residents participation in FY2009. We will also report these activities.

SP-164

Food Pattern and Activity towards Central Obesity in Different Kinds of Social Economic Status

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Prevalence of obesity increases sharply in few years in the developing countries. Obesity is a risk factor of disease that to be main cause of death like coronary heart disease, diabetic mellitus, stroke, and cancers. The study was intended to assess effects of food pattern and activity on obesity in different kinds of social economic status (SES). The analysis used Riskesdas (Basic Health Research) data collected in 2007 in all provinces. Data from Java and Sulawesi's island was selected in the analyses (n=3,478). A multivariate logistic regression was performed to evaluate determinant factors towards obesity in each social economic status. Multivariate analysis showed the most risk factors of abdominal obesity was physical activity to low and middle SES, with Exp (B) value 2,032 and 1,461, respectively, while in the high SES, consumption of sweets had negative risk on the occurrence of central obesity, with Exp (B) 0,678.

SP-165

Rural Thai Elderly Health Status and Community Health Care Model

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These participatory action research aims to study the life styles, health status, and self-health care among elderly people who live in the semi-urban area in Chiang Rai Province, northern Thailand. The study population were the people who were of 60 years old and selected by a simple random sampling technique. Totally 212 persons were recruited in to the study from 504 persons. The instruments of the study were the questionnaires which composed the general questionnaires, WHOQOL (WHO quality of life), NRI (Nutrition Risk Index), MHSE (Mental Health Status Examination). All the

questionnaires had been tested for validity and reliability. The instruments included the physical examination form, and 5 ml. of blood specimen.

The results found that 54.23% were female, 25.47% were age 70-74 years, the highest frequency of married were 3 times, 39.6% were have had the disease history, 32.07% have the history of medical operation. 100.00% presented that visited the medical doctor at the hospitals or public health centers while their illness. 86.32% living far from the hospital about 2 kilometers. 98.15% used the social welfare insurance when received health care service. 56.13% of care giver were their relative. 91.985 had income 500 baht per month, 48.58% were illiterate. 12.73% has smoked, 59.25% has 41-50 years of length of smoking, 16.98 were an often drink alcohol, and 42.10% were eat un-cook food. Biochemistry results shows that 17.55% were $\geq 251\text{mg/dl}$ o

SP-166

Intentional Self Poisoning in Adolescence- What Are the Reasons

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Deliberate self poisoning with pesticide, plant poisons or drug overdose is commonly seen among adolescence in developing countries. Objective of this study is to identify the reasons of self harming with poisoning. A prospective study was carried out in teaching Hospital Anuradhapura Sri Lanka over a period of 6 months. Out of 731 poisoning admissions 161 were in the age group of 11-19 years. 85 patients completed the confidential semi structured questionnaire on discharge from the hospital after clinical recovery. Females showed highest incidence of deliberate poisoning than male (64:21). Organophosphate was the poison of choice. 29% had the intention of suicide while six of them (7.05%) revealed previous attempts. Others intend to draw attention or punish themselves. Majority of the patients had studied beyond grade 10 at schools. 34.11% had left the school before completing the secondary education and was unemployed. But only 1.17% gave it as the reason for intentional self poisoning. For a majority conflict with parents or parents in-law was the reason (35.29%). Conflict with the spouse 11%, siblings' 14%, misunderstanding /argument with the boy friend/girlfriend accounted for 11.47%. Sexual harassments accounted 2.35%. Out of the study sample 10% of adolescent were married. Argument with either spouse or parents in-law was the reason for poisoning for all of them. Some has witnessed the intentional poisoning by their immediate family members, neighbors or classmates. Interventions to reduce the adolescent intentional self poisoning should be directed towards

building up a good relationship with them by the parents and the family members.

SP-167

Revisiting Community-Based Health Workforce from Community-Based Approach to Family-Based Approach Case of Indonesia

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This policy paper based on the data and library research to analyze Community-Based Health Workforce (CBHW). The paper explore the history and the some models of CBHW that are implemented in Indonesia. Results, the history of CBHW come from long story. In early period, we only know the CBHW as traditional healer. There is no special program was developed by government to support the community health. The health training for the TBA was started in the year 1952 by Ministry of Health (MOH). In 1986, the Integrated Health Post (IHP) was launched by President of Republic of Indonesia. In this period, many success story, the famous one is the family planning program. On 2007, MOH introduced new program that is called the Steady village. The village is description of a community who are aware and able to prevent the health problems such as malnutrition, communicable diseases. In the year 2009, the program is targeted that 69,000 villages will become the steady villages. Eventhough, the CBHW has been conducting for more than 30 years in Indonesia. It seems that works ineffectively, so we propose the Family-Base Health Action (FBHA) as new approach in conducting the public health program. Conclusions, In the future, we need a new concept of self help and self reliance community health program. The FBHA could be a solution since it focus on the family health. The FBHA base on the family member as health cadre that lead to sustainable the health program in household level

SP-168

Policy Implementation of Village Allert to Achieve Healthy Indonesia 2010

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In orderto achieve Health Development Vision called as Healthy Indonesia 2010, Government of Indonesia has launched a program called as Village Alert. The Village Allert Program is aimed at forming community at village level who are aware, willing, and able to prevent and handle various threat to public health like malnutrition, communicable diseases and diseases that has potential to be outbreak, disaster, and injuries using local resources and community mutual-partnership (gotong royong) However, this program is centrally designed by Ministry of Health and implemented by local government such as district government in a decentralized system. After implemented for 2 year, this program is seemingly not so

successful. This article is trying to identify and discuss the causes that make this important program not successfull and define several options including policy and managerial options covering human resources and management arrangement of village allert program at village and disrict level.

SP-169

Risk Factors of Gout in Out Patients of Takalar General Hospital, South Sulawesi Province, Indonesia

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Gout arhritis or gout is a rheumatic disesease that caused by kinetic disturbance of uric acid that is hypeuricemia. The study was aimed to determine risk factors of gout in Takalar Hospital. The study was observational using case-control design. Case was gout pateints and control was patients in Internal Clinic with no gout. A logistic regression analyses was used to assess the risk factors. Results showed that there were correlations between gout and age (OR=3.59, CI-95%:1.76–7.33), gout and sex (male) (OR=2.02, CI-95%=1.05–3.86), gout and obesity (OR=2.25, CI-95%: 1.17 – 4.33), gout and hypertension (OR=2.68, CI-95%:1.32–5.44), and red-meat consumption (OR=5.66, CI-95 % 2.59–12.4) and no correlation between gout and seafood (OR=0.706, CI-95%=0.36 – 1.38) and consumption of traditional alcohol drink (OR=0.91, CI-95%=0.38 – 2.14). We conclude that the highest risk factor of gout was red-meat consumption. It is suggested that people on age more than 40 to control food that high purin content, active on sport and control of body weight and blood pressure.

SP-170

Impact of Normal Alanine Aminotransferase Levels on Incident Diabetes

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Background: Elevated ALT levels might be associated with type 2 diabetes but whether higher ALT levels within the normal range predict the risk is unknown. Methods: We followed a community-based cohort of 3,446 individuals 35 years old without diabetes and hepatitis B or C in southern Taiwan for 8 years (1997-2004) to study the risk for type 2 diabetes with different normal ALT levels.

Results: Among the 337 incident diabetes cases, 16.0% were from those with ALT levels < 10, 44.5% with ALT levels 10-19, 30.0% with ALT levels 20-39, and only 9.5% with ALT levels 40. A cumulative hazard function test showed that the higher the ALT levels, the greater the cumulative incidence rate of diabetes (P < 0.001,

log-rank test). A multiple Cox proportional hazards analysis showed that higher ALT levels, from hazard ratio (HR) = 1.8, for ALT = 10-19, HR = 3.7 for ALT = 20-39, to HR = 4.5 for ALT 40, were significant for developing diabetes ($P < 0.001$). The risks of higher ALT levels in the participants without alcohol consumption were similar to or even higher than those in the total cohort. After adjusting for BMI levels, the HR of ALT levels was markedly higher for those with a BMI < 25 than those with a BMI 25. Conclusions: Higher ALT levels, even within the normal range, are strong predictors of type 2 diabetes independently of BMI levels with a dose-response relationship.

SP-171

Legal Issues on Health and Public Health Services for Alcoholics

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The objective of this study was to identify the current legal issues on health and public health services for the alcoholics in Mongolia and to reflect people's opinion for the development of the legal environment. Qualitative analysis of 36 semi-structured interviews with professionals who are responsible for alcohol issues and alcoholics combined with legal document review of 24 laws and other documents. There are many references focused only on the compulsory treatment coercing individuals into alcohol abuse treatment in laws. For example, compulsory treatment and labor for alcoholics under the direction of legal enforcement through the decisions of the Court in case of refusing treatment is seen more as a punishment. Sobering-up facilities became a place of punishment to detain citizens like offenders at police office, instead of place for sobering them up from the harmful exposure to alcohol according to the Law on the compulsory sobering-up of persons who have become inebriated. Most of alcoholics and professionals had same perception that there is no treatment or training and health care service provided in the sobering up cells. In conclusions, there is as of yet very little developed regarding the environment on health care and social welfare and protection for alcoholics. Therefore, participants recommended to revise laws combating alcoholism and to improve capacity through the provision of medicine and equipment to the narcological departments of district health centers and the establishment of narcological departments with beds at the aimag hospitals for treatment and prevention of alcoholism.

SP-172

The Effect of Comparison Preventive Liver Fluke Behavior between Application Health Belief Model

with Participation and Hand Book in Liver Cancer's Risk Group

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This quasi-experimental research aimed to study the effect of comparison preventive liver fluke behavior between application health belief model with participation and hand book in risk group's cancer of liver, Nonsang district, NongBuaLamPhu province. The Participants were 82 divided experimental group I and experimental group II each group were 41 subjects. The participants in experimental group I were received health education program using lecture, VCD, the participation, the stimulation and handbook of liver fluke. The participants in experimental group II were received only handbook of liver fluke. The duration covered 12 weeks and data collection by questionnaires. The data was analyzed by the Stata version 8.2 to acquire percentage, arithmetic mean, standard deviation and median. The independent t-test was used to compare the knowledge, the perceived susceptibility, the perceived severity, the perceived benefits, the perceived barriers and the practice for modification preventive liver fluke behavior.

The result after experiment showed that the experimental group I had arithmetic mean of the knowledge, the perceived susceptibility, the perceived benefits and the practice for modification preventive liver fluke behavior were more than the experimental group II significantly ($p\text{-value} < 0.05$) but the perceived severity and the perceived barriers nonsignificantly. The examination for parasite before experiment showed that the experimental group I and experimental group II infections liver flukes found 9.76 % and 7.32% respectively and treated praziquantel. The after experiment not found infections liver flukes. The recommended that study applied this program for modification preventive liver fluke behavior and cholangiocarcinoma long term.

SP-173

Enhancing the Utilization Rates of Preventive Healthcare Services for the New Immigrant's Children

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The objectives of this study are: (1) to understand the actual utilization rates of preventive healthcare services for the new immigrant's children, and (2) to enhance the utilization rates by implementing the intervention measures. This study targets the new immigrants living at Ji-An, Hualien County; a group of 100 are selected by purposive sampling; 50 are assigned randomly to the experimental group, and another 50 to the control group. In order to uplift the utilization rates, the social cognitive theory is applied in this study to employ the intervention

measures. It brings about how the people、environment and behavior interact with each other; meanwhile, it explores how people's thought and intervention measures affect their health behavior. Furthermore, it actually carries out the intervention program, and evaluates the result for both the experimental group and control group. The findings have three parts: the first part is the analysis of the research target (this analysis is the pretest of the intervention program), the second part is the effectiveness of the intervention program, and the third part is the doctors' suggestion for uplifting the utilization rates. The findings demonstrate that the intervention program generates statistical significance toward the "children's health check-up" and "health consultation for the children".

SP-174

Analysis and Achievement of Healthcare Station for Promoting Residents' Health in a Community of Mid-Taiwan

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Objectives: In mid-Taiwan, a community hospital established healthcare station at nearby villages since June 2007. We took residents' blood pressure (BP) weekly, finger-stick blood sugar (FBS), serial programs of patient instructions and epidemic prevention monthly to aim to investigate and analyze the efficiency of healthcare station in health promotion.

Methods: We selected one village as the sample. The population was 782, with 44% male. Statistic t-test of residents' BP and FBS of 2008 was done by SPSS 13. We followed up cases with abnormal BP and FBS, and investigated residents' satisfaction about health promotion via questionnaires.

Results: Total residents who participated actively were 46: mean age, 70±4 years; 30% male. On January 2008, the residents' mean BP was 147±7/94±5 mmHg and number of cases with abnormal BP and FBS were 30 and 12. On December 2008, mean BP was 135±5/85±3 mmHg and abnormal cases were reduced to 21 and 10. Throughout one-year of patient instructions and closely monitored, the reduction in residents' BP achieved significant difference ($p<0.05$), but no difference in FBS. The residents' satisfaction for healthcare station could attain to 90%.

Conclusions: Healthcare station's work in regular BP monitor and life style instruction got significant achievement, but the efficacy in FBS reduction could be studied further. We expect that a combination of diet modification, regular exercise and follow-up in community hospital could provide better health quality.

SP-175

"The Pills Touch My Heart"- Medication Cognition and Medication Behavior within Communities of

Elderly People Suffering from Hypertension and Cardiovascular Diseases

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Objectives: Due to the fact that hypertension and cardiovascular problems are lingering diseases, elderly people tend to neglect the necessary medication. Therefore this research focuses on the medication cognition and behavior of elderly suffering from these kinds of diseases.

Methods: Our research is based on an In-depth interview with open questions. The group being questioned consists of 20 elderly people in 2 suburb communities. The group in the first community had participated in a health education program. The second one has had no health education at all, but was submitted to several preventive health examinations in the neighboring hospital.

Results: Our comparative study indicates a clear division between the two groups being questioned: The participants of first group show more awareness concerning the side effects of their prescribed medicine. They are more eager to tell the physician about their complaints connected with their medication. The second group showed the opposite behavior. These participants were not aware of the side effects and were reluctant to speak with the physician about their complaints. The statements suggest that coping with health problems is strongly interrelated with intensive neighborhood contacts within these communities consisting of elders with little education. The regular control of their blood pressure indicates that elderly with hypertension are well aware of their disease and take their medicine in accordance to the prescription. Due to their worse health condition elderly with hypertension plus heart diseases have to take a greater variety of pills. Their medication behavior can be labeled as selective.

SP-177

More Family Numbers, Higher Quality of Life? Evidence from Quality of Life of Family Numbers with Needed Long Term Care Family

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The different choice of care may impact the caregivers' quality of life. This study aim is to analysis the number of family influence the quality of care of family caregivers. By using the 2001 Taiwan National Health Interview Survey data, we analyzed 986 samples of 372 families, and used multiple regression analysis as statistical method. After controlling other confounding factors, there is statistical significant negative effect influence of numbers of family on physical health related quality of life, and there is no significant effect on mental health related quality of life among samples. The results will be discussed.

SP-178

Investigation of Factors Associated with Influenza Vaccination among Hospital Workers

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Influenza is a highly contagious acute respiratory disease. Hospital workers not only are high risk population in terms of occupational exposure, but they, under influence of the disease, can also transmit influenza to their patients who can afterward develop complications or even die from the disease. Therefore this study was targeted at hospital workers to investigate their knowledge, attitude and behavior regarding to influenza vaccination. This was a cross-sectional study that included hospital workers from southern Taiwan. In order to include all types of hospital workers in this study, study subjects were selective purposively. A structure questionnaire was designed to collect study information. Information collected in the questionnaire included: knowledge of influenza, knowledge of influenza vaccination, attitude toward influenza vaccination, personal influenza vaccination experience and personal characteristics. Five hundred study subjects participated in this study. Data analysis utilized statistical software SPSS v. 15.0. Students't test and ANOVA analysis were performed to analyze the relation between worker's characteristics and influenza knowledge, influenza vaccination knowledge and attitude of vaccination. The results showed that influenza knowledge was related to year of work experience; experienced workers were having higher influenza knowledge scores than those who did not. Also, influenza vaccination knowledge was related to attitude of influenza vaccination; those who indicated willing to receive influenza vaccination next year were having higher influenza vaccination knowledge scores than those who did not. Therefore, it is crucial that hospital managers should target at hospital workers' vaccination knowledge to increase their vaccination behavior.

SP-179

Effects of the Sakado School-Based "Shokuiku" Food and Nutrition Education Project on Breakfast and Snacks

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Purpose: The Sakado School-based Food and Nutrition Education project have been developed from 2006. The effectiveness on eating breakfast everyday, appropriate eating of snacks and influential factors by this education intervention was examined.

Method: This study is a quasi-experimental design. The control group is comprised of 694 fifth-graders who participated in 2006 and the intervention group is

comprised of 808 fifth-graders participated in 2007 from all 13 primary schools in Sakado city.

The intervention group took new education program for 8 hours, and the control group was observed only.

Children of both group completed questionnaires at the beginning of this study (Pre) and after one year (Post).

Results: As for the knowledge of food group, though significant differences were seen between Pre and Post of both group, the intervention group was significantly more improved than the control group ($p < 0.01$). A positive attitude to health and diet, there was significant difference between Pre and Post in the intervention group only ($p < 0.05$). With respect to self-efficacy for good health and eating behavior, the intervention group improved more than the control group for one year. Significantly more children in the intervention group ate breakfast every day than the control group ($p < 0.05$). The intervention group significantly decreased intake frequency of soft beverage drinks after one year ($p < 0.01$), but the control group did not significantly decrease.

Consideration: Education program is effective on intake of soft beverage drinks and eating breakfast everyday through improvement of predisposing factors.

SP-180

Health Status and Health Care Behavior among the Disabled People in Two Provinces of Thailand
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Objective: To study the situation of health status and health care behavior of the disabled people in two provinces of Thailand

Methods: A cross-sectional survey was conducted in 5,352 disabled people age over 15 years by multistage cluster sampling. The data were collected from April to June 2008 by interviewing questionnaires and in-dept interview. Data were analyzed by frequency and percentage.

Results: The most common disabilities were extremity abnormality (44.2%), intellectual impairment (16.3%), and visual defect (13.4). The common causes were congenital anomaly (42.4%), sequelae of chronic illness (31.4%), and accident (24.3%). For the disable level, 49.1% were partially self support, 44.8% were totally self support, and 6.1% were dependent. For the health care behavior, 69.7% had no exercise, by which 40.6% due to physical limitation, 47.2% did not seek medical consultation in the past one year. Most of the disabled people

(80.1%) received health information from television (57.6%) followed by health personnel (45.4%) and radio (39.5%). The disabled people needed social welfare and social right (74.8%), profession procurement (26.1%) and social acceptance (21.1%)

Conclusion: The important disability was extremities abnormality and common causes were congenital

anomaly and sequelae of chronic illness. Most of disabled people had no exercise and half of them did not seek medical consultation. The responsible organizations should provide the accessible social welfare and health care services to the disabled people.

SP-181

Quality of Life and Health Behaviors among Disabled People in Two Provinces of Thailand

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Objective: To examine health behaviors and quality of life among disabled people in two provinces of Thailand. **Material and Methods:** A cross-sectional study using multistage cluster sampling was collected from 5,352 people who living with disabilities from Chiang Mai and Nakhon Ratchasima from April to June 2008. The WHOQOL-brief and health behavior scales were used to measure QOL and health behavior.

Results: Majority of disabled people had overall health behaviors related to exercise and health responsibility at need to improve level (46.6%, 52.8%), while nutritional behavior and stress management was at good level (80.8%, 43.8%,). Overall quality of life was mostly at moderate level (79.3%), the second was good level (14.6%). Analysis of the relationship found that exercise and stress management had significantly positive relationships with quality of life at low level ($r = 0.18$, $r = 0.12$) at $p < 0.01$.

Conclusion: The result indicated that person who had health promoting behavior by nutrition, exercise, stress management were good QOL. An intervention study should be conducted to promote family and health authority support in promoting quality of life.

SP-182

Factors Associated with Hospitalization in Long-Term Care Frail Persons

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Investigating the situation of being hospitalized and associate factors in long-term care frail persons. A historical cohort method is adopted to conduct the study. After identification of home nursing cases from the outpatient claimed database of the Bureau of National Health Insurance in 2002 as investigating targets. Those cases were be connected to the diagnosis or case reports of outpatient and inpatient. The logistic regression was used to analysis the risk of being hospitalized after adjusting the patient and hospital characteristics. Among the 26,760 home nursing of long-term care cases in 2002, percentage of female was 53%, age >65 years old was 82%, 66% at home and 34% at institutions. Among those

study cases, the percentage of being hospitalized was 73%, 222 times hospitalizations per hundred persons, and average frequency of inpatient is 3 times for every hospitalized case per year. From the results of analysis, it reveals that male, age over 65 years old, with significant disease and insurance location is at central Taiwan, living in Nursing Home, home visit serviced by affiliated with hospital and the institutions of total home visit over 172 times will have higher hospitalized ratio. Certain potential modifiable factors appear to be associated with hospitalization. Greater attention to improve control these factors may lead to improve outcomes in home nursing patients, which could result in reduced hospitalization and cost savings. To create subacute care system and enhance the connection of discharge planning and long term care resources is important.

SP-183

Perspective from Health Professionals on Delivery of Sub-Acute Care in Hong Kong

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Background: A number of studies have shown that unnecessary hospital admission and delayed patient discharge was significantly high. The provision of sub-acute care services aims to act a bridge between hospitals and home so as to reduce avoidable readmission.

Study Aim: The purpose of this study was to explore the perceived definition, role and quality of sub-acute care services in the context of Hong Kong from the perspective of health service providers.

Methods: Seven focus groups were conducted with a purposive sample of 50 participants from public and private health sectors. Discussion was led by a guide covering two main areas: definition/role of sub-acute care and quality of sub-acute care provision in the healthcare system.

Results: The sub-acute care was defined in this study as a phase between acute and convalescent stage or between acute and community. The roles of the provision of sub-acute care as an important component in the healthcare system to improve the quality of care, reduce avoidable hospital admission and facilitate early hospital discharge were acknowledged. For the quality, a number of barriers are identified including lack of service coordination between acute and sub-acute provisions, lack of communication between medical and social care, and inadequate specialist input and resources in the sub-acute care.

Conclusions: To enhance the quality of sub-acute care provision, the interface of sub-acute care with all health services sectors and stakeholders should be well coordinated and communicated so as to ensure integration with the whole system.

SP-184

C-Reactive Protein Is Associated with Silent Brain Infarction in General Population

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High sensitive C-reactive protein (CRP) has shown a strong association with increased risks of clinical vascular diseases. However, the association with silent brain infarction (SBI) is unclear, especially in the population with low CRP levels. We explore to observe the association of CRP and SBI in general population. Total of 74 cases and 296 controls included from 2 studies in community. Case is those had no history of stroke but had ischemic lesion in brain MRI. Four randomly sampled controls matched by age, gender and study population, from those subjects without SBI. All persons accessed the CRP levels. The subjects with SBI, than without SBI, had significantly more hypertensive, diabetics, hyperlipidemia, history of cardio-vascular disease, and higher proportions of above median CRP (≥ 0.133 mg/dL). Of raised CRP level to SBI risk, the age- & sex-adjusted odd ratio (OR) is 1.87 ($p=0.0237$) and multivariate OR is 1.71 ($p=0.0569$). Elevated CRP level had most markedly progression additive effects with higher Framingham stroke scores (FSS, ≥ 10) and serious plaque score (PS, ≥ 4). The persons with above median CRP levels had an additional SBI risk in those with raised FSS (OR, $p: 4.06, 0.0014$) or PS (3.89, 0.0004), whereas, in those without raised FSS or PS risk, those with below median CRP level did not have an increased SBI risk.

SP-185

Correlates and Accuracy of Osteoporosis Screening among Female Community Residents

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Objectives: To explore the correlates of osteoporosis screening behavior among female community residents and to examine the accuracy of osteoporosis screening. **Method:** A telephone survey was conducted using nation-wide representative samples of female community residents aged 25 and older. Data were collected using computer-assisted telephone interview systems by stratified random sampling according to geographic areas. This survey (N=1,074) was conducted weekdays from September 24 to 30, 2008. A logistic regression was used to explore association between demographic variables and osteoporosis screening behavior.

Results: A total of 29.2% subjects underwent quantitative ultrasound (QUS) and 13.4% underwent

dual-energy X-ray absorptiometry (DXA) in the past year, with abnormality rates of 35.3% and 32.7%, respectively. The false positive rate of QUS based on DXA outcome was 26.1%; however, only 28.8% of subjects with osteoporosis diagnosed by QUS further undertook DXA. Multiple logistic regression analyses revealed that age 65 or above (OR=3.83, 95%CI=2.03-7.23), age 51 to 64 (OR=2.31, 95%CI=1.55-3.45), northern residential area (OR=3.38, 95%CI=1.27-9.00), central residential area (OR=3.74, 95%CI=1.35-10.32), southern residential area (OR=3.75, 95%CI=1.39-10.07), those having a full time job (OR=1.46, 95%CI=1.03-2.06), were more likely to undergo QUS compared to their counterparts, after controlling for subjects' level of education and household income.

Conclusions: Age, residential area, and working status were significantly correlated with osteoporosis screening behavior. We therefore not only call for increased awareness on osteoporosis screening but also recommend further investigation once diagnosed with osteoporosis by QUS.

SP-186

Caregiver Burden among Caregivers for Children with Rare Diseases

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Objective: The aim of this study was to explore the level of caregiver burden for rare disease children.

Method: There were 695 rare disease children aged 7-15 registered as members of the Taiwan Foundation for Rare Disorders. An anonymous questionnaire for the caregiver was mailed to these members' family. A total of 344 subjects were recruited in this survey with the response rate of 49.5%. A total of 231 subjects meet the criteria of government announced rare diseases and were included in the data analyses. The Chinese version of Caregiver Burden Inventory (CCBI) and Zarit's burden Interview-Chinese version (CZBI) were used as an instrument to measure the level of caregiver burden.

Results: The main caregiver of these rare disease children was the mother (80.5%), the father (13.4%) and others (6.1%). Roughly 47.2% of the children were diagnosed as having rare disease before two years of age, and 67.1% of their diseases were reported under control during the survey period. The mean score of the CCBI was 43.53 ± 18.94 and it was lower than that of patients with dementia from other studies. Besides, the mean score of the CZBI was 36.04 ± 15.94 and it was higher than that of patients with dementia from other studies. **Conclusion:** The difference of mean CCBI/CZBI score of patients in this study compared to other studies raises the importance of targeted and tailored educational counseling for this high-risk population.

SP-187

Factors Contributing to Uptake of Influenza Vaccine among Community-Dwelling Elderly in Taiwan

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Objective: The objective of this study is to investigate the relationships between influenza vaccination and health status, health behavior, living arrangement, and outpatient visits for community-dwelling elderly.

Methods: This study selected a cross-sectional sample of elderly aged 65 and above from the National Health Interview Survey (NHIS) in 2005. The study sample represented senior citizens who resided in Taiwan in 2005, due to the sampling method of probability proportional to size used in NHIS. Data on individual influenza vaccination status in the last year was collected by questionnaire in NHIS. Analysis was conducted using Chi-square and logistic regression.

Results: Vaccine uptake in the total sample of 2,621 elderly was 57.6%. For male, those aged between 75 and 84 (OR=1.2, 95%CI=1.0, 1.4), living with spouse (OR=1.4, 95%CI=1.1, 1.7), suffering with heart (OR=1.2, 95%CI=1.0, 1.4) or respiratory disease (OR=1.3, 95%CI=1.0, 1.5), keeping good health behaviors like exercise (OR=1.3, 95%CI=1.2, 1.5) and health examination (OR=1.6, 95%CI=1.4, 1.8), and making outpatient visits for last month (OR=1.2, 95%CI=1.1, 1.4), were more likely to uptake influenza vaccine. For female, elderly with diabetes (OR=1.3, 95%CI=1.1, 1.5), doing exercise (OR=1.2, 95%CI=1.0, 1.3) and health examination (OR=1.5, 95%CI=1.3, 1.8), and making outpatient visit for last month (OR=1.3, 95%CI=1.1, 1.5), were more likely to uptake influenza vaccine.

Conclusions: Vaccine uptake was associated with good health behavior, health status, and outpatient visit for both gender, and linked to living arrangement and age group for male.

SP-188

Different Types of Physical Activity and Eight-Year All-Cause Mortality among Taiwanese Older Adults

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Background: This study was designed to assess the effects of overall and different types of physical activity on all-cause mortality among older adults.

Methods: This research was a population-based study of residents aged 65 years and older (N=2133) in the township of Hunei in Taiwan from 1999 to 2007. There were 649 deaths during a mean follow-up of 6.9 years. Physical activity was evaluated with the Physical Activity Scale for the Elderly (PASE). The Cox proportional hazard models were used to estimate the

association of physical activity with mortality adjusted for baseline potential confounders. Etiological fractions of death for physical activity among the exposed group were calculated.

Results: This study showed an inverse pattern of association between leisure physical activity and mortality with a 68% and 34% increase in low active men and women with multivariate adjustment. The low household activity groups had more than 30% increase in mortality risk. No significant association was found between work-related physical activity and longevity. The low overall physical activity group had 64% increase in the risk of all-cause mortality. Around 20% of death in the population was attributable to leisure, household or overall physical activity.

Conclusion: This study extends the understanding of associations between different types of physical activity and longevity for the Chinese in Taiwan and fills the gap in the existing literature focusing on Western countries.

SP-189

Prospective Study of Physical Activity and Academic Performance in Elementary School Children

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Introduction: The relationship of physical activity with academic performance among school children with a six-month follow-up period was studied.

Methods: Data were collected among the grade six students (n=409, boys: 210) in one school in Taichung County, Taiwan from the first semester of the 2007 academic year with a six-month follow-up interval. Academic performance (outcome) was the total scores in the end of the second semester of the 2007 academic year provided by the school. Physical activity (exposure) was measured using the International Physical Activity Questionnaire (IPAQ). Covariates included gender, intelligence quotient, depressive symptoms, baseline academic performance, father's/mother's educational level, whether the child belongs to single parent household. Multiple linear regression model was then adopted for predicting academic performance. The Model was conducted again stratified by genders and then by different subjects, comprising language and mathematics.

Results: Children whose participation in high or moderate physical activity level had higher scores than low physical activity level (high: $\beta=4.60$, $p<.01$; moderate: $\beta=3.50$, $p<.05$). Boys whose participation in high or moderate physical activity level had higher scores than those with low physical activity (high: $\beta=4.99$, $p<.01$; moderate: $\beta=4.88$, $p<.05$), but no significant correlation was found in girls. Those who with high activity level performed better on subjects of language ($\beta=4.04$, $p<.01$) and mathematics ($\beta=4.54$, $p<.01$).

Conclusions: Physical activity is positively associated with academic performance in elementary school children. Educational authorities, schools and parents should encourage children to participate physical activity regularly.

SP-190

Benzodiazepine Misuse Problem and Development to Narcotic Drug in Rural Area Thailand

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Background: benzodiazepine is one of sedative and hypnotic drugs. Increasing of its misuse and abuse makes it play an important role as narcotic drugs in Thai society.

Study Design: A qualitative research was conducted for this research. Source of data and key informant: 18 key informants willing to participate in this study were drawn from a population based survey of sedative and hypnotic drug use in rural area, northeastern region of Thailand.

As misuse and abuse drug users, key informants were identified in accordance with international standard criteria of DSM IV (revised version 1994).

Method: An in-depth interview of misuse experiences was implemented. Data analysis was performed using content analysis and triangulation methods.

Result: Most frequently used Benzodiazepine drugs were Diazepam, Lorazepam and Alprazolam. Most misused group was women who were housewife. Usually drug misuse begins with medical treatment and then drug addiction is slightly developed. Most of key informants were patients who habituated drug used reflected that benzodiazepine in their lives is harmless. Some user used Benzodiazepine as narcotic drugs, second line drugs and used involved with cannabis, alcohol and methamphetamine. Drug users can easily find out Benzodiazepine from hospitals and some of them bought from nightclubs and smugglers from Thai-Lao free trade border.

Conclusion: Sedative and hypnotic drugs in Benzodiazepine group have been increasing misuse until becoming abuse. Medical Law need increased strictly control and medicine dispensation of medical treatment in public health system should be seriously considered.

SP-191

Scoda as Peer Education Based on Senior High School in Effort to Prevent Drugs Abuse

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Threat caused by drugs in Indonesia was increasing especially at young generation. High school student need the different ways to prevent drugs abuse. One of them,

it's a peer education program. Therefore, it needed something like organization at student level which can give information. Then, it created a Study Club on Drugs Abuse (SCODA) as a peer education school-based on drugs abuse prevention. This activity was implemented in one high school in Gresik. Method of the activity was student empowerment and advocating. Student empowerment conducted through training program by giving subjects, simulations, games, giving assignment and study tour. Whereas advocating in order to get commitment from school side to develop the organization. The instruments used were questionnaire, subject module, training kit, simulation and game tools. For evaluation the program used pre-post test. The outcome that have been got from these activities were Study Club on Drugs Abuse (SCODA) as peer education organization to prevent drug abuse, members of SCODA as many as 14 students who done elucidation and extension for 100 students in same school and increased knowledge about drugs and prevention measures among them. Furthermore, it can decrease drugs abuse rates among high school student. Finally, SCODA can be developed to other high schools in Indonesia, as well.

SP-192

Usefulness of Self-Report of Hypertension in Predicting Follow-Up Risks of Chronic Diseases and Mortality of Older Taiwanese

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Background: Hypertension is prevalent in the elderly. It can increase the risk of many chronic diseases and mortality. In epidemiological studies hypertension is usually determined with clinical measurement of blood pressure. However, in social survey studies, hypertension is often identified with self-report without measurement. Objective: This study aimed to determine the usefulness of self-report of hypertension in predicting the risk of follow-up chronic diseases and mortality in older adults. Methods: The study analyzed data of a population-representative cross-sectional cohort study in older Taiwanese. Subjects' health conditions were analyzed at baseline in 1989 and the occurrences of new stroke, heart disease, diabetes and chronic kidney disease cases in 1999 were analyzed. Regression analysis determined the impact of hypertension on the occurrence of common chronic diseases and mortality.

Results: The prevalence of self-reported hypertension at baseline (1989) was approximately 27% (24% in men and 30% in women) for Taiwanese, 60 years or older. Elderly who self-reported hypertension had increased risk of follow-up stroke and heart disease ($p < 0.05$). However, the impact on chronic kidney disease and diabetes was not statistically significant. Elderly who self-reported hypertension also had a 38% increase in mortality risk according to regression analysis.

Conclusion: Self-report of hypertension is associated with an increased risk of follow-up stroke, heart disease

and mortality. It may be of value as a proxy of hypertension prevalence but not for identifying hypertensive individuals for intervention.

SP-193

Impact of a Community Approach to Prevent Road Traffic Injuries in Rural Setting of Thailand Orapin Laosee¹, Kalaya Zapuang², Sunitra Pakinsee², Ratana Somrongthong²

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Road Traffic Accidents (RTA) is a major public health problem in Thailand. The aim of the project was to promote safety awareness among road users of rural communities in the Chaing Rai province (September 2007- June 2008). The project was completed in three phases: (1) Community survey; (2) development of community network and road safety plan; and (3) monitoring and evaluation.

The survey was conducted on 1,024 road users, aged between 15 and 60 years (mean age 35.32; male: female ratio, 1.4:1). The survey determined, in the year preceding the survey, 57 road users sustained a traffic injury which required visiting a health care service or being absent from work/school for at least 1 day (morbidity rate 55.66/1000). Almost three-quarters (70%) of all reported traffic injuries were male motorcyclists, aged 15-24 years old and the main causes of RTA injury related to drink driving (46.03%) and high speed driving (33.33%).

The community network consisting of 50 members used the survey information to create and implement a master plan for road safety which involved a set of activities to gain safety knowledge and awareness in the community. The evaluation revealed a significant reduction of RTA mortality after implementation of the network activities when compared to RTA mortality in the same period of the preceded year. Although to enhance safety behaviors; teaching skills is not sufficient and social enforcement and punishment that fit to the local context need to be developed in sync with raising awareness of road safety issues.

SP-194

A Global Comparison of Physical and Social Environments between More and Less Urbanized Countries

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The impact of rapid urbanization on health is one of the major public health challenges in the 21st century. An understanding of how urbanization affects our living environments is important for better health. This study aims to investigate the association between the urbanization level and physical and social environments. Data on the urbanization level as measured by the

proportion of urban population and physical and social environments as measured using the Millennium Development Goals (MDG) indicators during the period of 2000-2008 were collected for 195 countries. Higher urbanization level significantly correlated with better physical and social environments: less poverty, better employment conditions, less undernourishment, more education, more gender equality, higher antiretroviral therapy coverage, lower proportion of slum-dwellers, and more connections to safe drinking water, basic sanitation, telephone lines, cellular phones, and internet. As less urbanized countries are speeding up the rate of urbanization through natural population increases, ensuring the concurrent development of physical and social environments is important for these countries. On the other hand, higher urbanization level significantly correlated with more emissions of carbon dioxide and consumptions of ozone-depleting substances and water resources, raising concerns about increasing environmental loads and global climate changes. In conclusion, this study identified that higher urbanization level is a key factor associated with better physical and social environments. Less urbanized countries should be the target of providing better physical and social living environments; while more urbanized countries should focus more on reducing emissions of global warming substances and depletions of natural resources.

SP-195

Men's Knowledge of Cancer Cervix (CaCx) and Pap Smear Screening (Papss) Predicting Spouse's Screening Behavior. Contribution of Gender Roles in Reproductive Health

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This paper links Malaysian men's knowledge in cervical cancer (CaCx) and pap smear screening (Papss) to gender roles in reproductive health. It is part of a larger multi-centered, transdisciplinary research project sponsored by the Ministry of Science and Technology, Malaysia. Data were collected via structured questionnaire and self-administered to 132 Chinese and Indians of selected urban and rural based household units in Northern Malaysia. Respondents were asked if they have heard of CaCx and Papss, where do they hear or obtain the information, on knowledge of signs and symptoms, causes, treatment available, reasons for as well as procedures, eligibility, timing and frequency of practicing Papss. Overall, their knowledge on CaCx and Papss was low. However, literature on men's communication and support seemed to influence spouse's Papss seeking behaviour. Thus, improving men's knowledge on CaCx and Papss is evidently critical. Men's participation on women's health could alter some of the belief and perception of women of high CaCx risks to practice Papss. Since current findings reveal that newspapers and friends provide men with

information on CaCx and Papss more than any other sources, it is necessary that the message of what, why, when, where and who of Papss reach the primary (women) and secondary (men) audience effectively. Advancing men's roles in reproductive health can be sampled in the forms of testimonies, fact and figures from health ministries and agencies locally and globally and place in media that reach men and women. Health protocols could advocate men's involvement in reproductive health would eventually benefit not only women but also men and future generation which in turn affects the country's public health.

SP-196**Anaemia Prevalence and Fitness Status among Student of Female Islamic Boarding School in Coastal Area and Non Coastal Area**

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There are thousand of Islamic boarding schools in East Java, some of them located in coastal area. Islamic boarding school that located in coastal area have some advantages of animal protein availability, because of fisherman product. Animal protein from fish have much iron content. Therefore, this research aimed to learn the difference of anemia prevalence and fitness status among student of female Islamic boarding school in the coastal area and non coastal area. The design of research was cross sectional comparative study. The population was female student of junior high school and senior high school who lived in Al Amanah Al Fathimiyah Islamic Boarding School in Jombang as represent of non coastal area and Mazra'atul Ulum Islamic Boarding School in Lamongan as represent of coastal area. The sample was 12-18 years old female student, living in the Islamic boarding school, good condition and not in menstruation period. The sample size was 41 students in each area, taken by systematic random sampling. The variables covered social cultural factor, pattern of consumption, supplement consumption, nutrition consumption, nutritional status, feces status, characteristic of Islamic boarding school, anemia status and fitness status. End result of chi-square test and simple logistic regression test showed a significant relationship of anemia status between Islamic boarding school in the coastal area and non coastal area. But, result of Mann Whitney test and simple ordinal regression test showed not significant relationship for fitness status between Islamic boarding school in the coastal area and non coastal area

SP-197**Improving Women's Skills in Critical Thinking, Family Economics and Management in Iran: CBPR**

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Objective : To empower women of Qazvin in critical thinking , family economics and management.

Methods : Community Based Participatory Research (CBPR) was conducted in a population of 50000 consisting about 12000 families. A total number of 45 household volunteers participated in workshops organized by the university and each volunteer taught between 5 to 20 women using especially tailored learning modules. After 2 months the practice of the 100 women in the intervention group was compared to the control one using self - administered questionnaires and the data were interpreted.

Results : According to our monitoring and assessment more than 500 women were exposed to the learning process using both formal and informal learning models. About 16% of a the control group and 98% of the study group got used to mind mapping in their problem solving, 28% of the control group vs 89% study one used planning in their family life and 14% if the control group vs 74% of the study group chose their goods according to their family objectives.

Conclusion : Improvement of the women's skills in critical thinking, family economics management can lead to better family performance.

SP-198**Surveillance in Occupational Health: the System of Medical Examination for Migrant Workers in Taiwan**

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Objectives: Workplace medical examination plays an important role in protecting workers' occupational health. Under the context of globalization, medical examination appears to play rather a role of epidemic control than that of health protection for migrant workers. In this paper, we investigate the current health surveillance system for migrant workers in Taiwan as well as explore the limitations of the system. **Methods:** This study is based on a literature analysis of the design and implementations of relevant laws and regulations. **Results:** In terms of occupational health management, the Taiwanese health surveillance system discriminates against migrant workers in that they are compulsory to take more items of medical examination in comparison with domestic workers, and they may be deported because of the result of examination. Medical examination is a process of medical gaze, during which the body and the action of a migrant worker become the objects which the mechanism of social surveillance displays. Migrant workers in Taiwan suffered not only from the power disparity caused by medical knowledge between the doctor and themselves but also their disadvantages of language and culture. Medicine, therefore, has actual social power that transcends the essence of science. **Conclusions:** In terms of protecting workers' health, the state gives precedence to domestic

workers over migrants since the latter owns little industrial citizenship. The current system has departed far from the core value of occupational health inspection, in that medicine and law form a stringent net of social surveillance.

SP-199

Child Nutritional Status in Indonesia and Its Transition in an Era of Economic Growth

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Background: Indonesia has experienced drastic changes in its socioeconomic conditions during the last half century, sustaining a move in dietary habits away from “traditional” to more “modernized” lifestyles. This review looks at the important of economic transition associated with changes in the consumption and children nutritional status trends.

Methodology: The major reference source used to develop this evaluation is the National Socio-economic Survey (SUSENAS). Secondary economic, dietary intake and anthropometric data is synthesized from local, regional and international published and unpublished reports and papers to provide evidence of food and nutrition trends and associated health implications.

Results: The country has experienced rapid dietary and lifestyle changes characterised by a double burden of disease in which chronic disease has become more prevalent while infectious disease remains undefeated. Economic transformation has altered the social demographic structure and contributed to large shifts in overall dietary patterns. Life expectancy has improved and infant and child mortality rates have substantially decreased. Despite this improvement, more than half of the population still suffer from various forms of nutritional deficiencies. At the same time, excessive and unbalanced intakes of food associated with changes in lifestyle are becoming serious public health issues related to increasing rates of overweight and obesity. This epidemiological and nutritional transition has seen concurrently changed to the extent where Indonesian children now suffer significant health problems associated with both under and over nutrition.

SP-200

Knowledge About Avian Influenza and the Use of Personal Protective Equipment by Rural Poultry Producers in Suphanburi Province, Thailand

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This study aimed to describe the level of knowledge regarding avian influenza and the use of personal protective equipment (PPE), by poultry producers in rural Thailand. Four focus group discussions were

conducted in June 2008 in Suphanburi Province, which reported five waves of highly pathogenic avian influenza H5N1 between the years 2003-2007. All participants raised poultry at the time of the H5N1 outbreaks. Multiple types of poultry production were represented, including backyard chickens, ducks, and fighting cocks. Two of the focus groups were conducted in areas where there had been two or more previous episodes of H5N1 poultry infection, and two groups were conducted in areas which had experienced only one episode. Of the 33 participants, 20 were male, and the age range was 25-81 years (mean = 51). The focus group questions aimed to identify the participants' perceived risks from avian influenza, as well as the perceived benefits from and barriers to PPE use. Overall, the knowledge of the clinical signs of avian influenza was limited, and the participants perceived a low risk to humans and poultry. This was reflected in a reported lack of PPE-use. These findings were consistent in all groups, regardless of the number of outbreaks experienced. The reported barriers to PPE-use included a combination of cultural, educational and socio-economic factors, suggesting that the promotion of avian influenza awareness must include the transfer of knowledge in addition to the provision of PPE itself.

SP-201

Five Leading Causes of Mortality and Its Impact on Economy in Mongolia, 2003-2007

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Background: In 2007, 36 percent of the population mortality causes was circulatory system diseases, 20.1 percentages was cancer, and 19.2 percentages was injury, intoxication and diseases caused by external causes. Moreover, population mortality level for 10000 male population is 77.36, and 10000 female population is 45.11.

Methodology: Mortality data collected by the Health Info Data Set. Years of Potential Life Lost (YPLL) and the impact on economy were analyzed. **Objectives:** To analyze mortality data and to assess the impact on its economy.

Result: According to our study, injury is placed in the leading place (76054.2), circulatory system diseases place (40640.3) second and cancer places (24454.6) third in mortality causes in order (The average age of the people who died due to the leading 5 causes of mortality is 48.5). The five leading causes of mortality were high percentage among 40-54 year old and economically active population dies from these diseases which indicate that it harms the state and economy greatly. The fact mainly 25-49 year old people are died from injury and economic loss due to injury or “partial production” of GDP was equal to 2.4 billion tugriks in estimation of

working age population death due to leading causes of mortality on economy.

Conclusion: The mortality slightly increased in last 5 years among all age groups in the country and the fact of starting to use the specialized estimation of effects of population mortality from leading diseases on economy in policy formulation operation in developed countries is being essential.

SP-202

Globalization as a Social Determinant of Health: Influence on Food Consumption among Young People in Bangladesh

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Globalization as a social determinant of health is a relatively new construct. Worldwide, globalization is beginning to be associated with the rise of non-communicable disease via different pathways. Changes in food consumption pattern is one of the pathway through which globalization has affected the health of the young people in recent decades. Since 1990, Bangladesh has experienced major changes due to the structures and processes of globalization. The current qualitative focused ethnographic study explores the macro structures and processes of globalization in Bangladesh and examines the food consumption pattern of young students in a private university of Dhaka. It was found that most students are regular consumers of 'fast food' and many suffer from health consequences, e.g., obesity etc. Health information, education and services are inadequate even if financial access is not an issue. Globalization seems to have promoted an uncontrolled growth of trans-national food corporations (TNC) as well as a 'global' lifestyle. Policy and programs are found to be inadequate to combat the aggressive advertising of the TNC and consumerist youth lifestyle. Immediate action is required to address the negative effects of globalization on the food consumption pattern of the youth.

SP-203

Socio-Cultural Dynamics in an Upazila Health Complex: An Exploration

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Understanding the dynamics in Upazila Health Complex (UHC) is imperative in Bangladesh as it is the nucleus of PHC delivery. The study aimed at describing the epidemiological trend that lead the patients towards UHC and consequently drive them through the complex socio-cultural dynamics among different stakeholders that influences the perceived responsiveness of the patients. The mixed method study comprised inter-disciplinary approaches: epidemiology, anthropology and health systems. Quantitative data for

epidemiological pattern was generated through Patient Flow Record, Disease Profile and SRS from Patients Registry Book. Participant observation, document review, in-depth interview, FGD and debate between attendants and providers were used for qualitative data collection. Responsiveness data were generated through exit surveys. Epidemiological data suggested dramatic increase of Inhalation poisoning during the Bengali months of Bhadra-Ashwin (paddy plantation time) going overlooked by authority. Manpower shortage was the mother cause of many consequences which again was linked with problems of rural settings e.g. undue political pressure, cultural mismatch, electricity shortage, lack of security, transport facility, educational institutions for children and entertainment. Some innovative therapeutic (using straw as dropper, strap of saline bottle as micropore) and management practices (using medicine of affluent patents for needy ones) were observed utilizing locally available resources. Responsiveness of the hospital was perceived 'good' by patients using WHO questionnaire but 'bad' using proposed questionnaire. The inter-disciplinary approach yielded policy recommendations e.g. considering Disease Profile for rational medicine supply, performing anthropological research to understand local construct of prevalent diseases, introducing realistic client complain mechani

SP-204

Life Satisfaction Trajectories, Economic Status and Successful Aging among Taiwanese Elderly

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Purpose: Successful aging is composed of physical, mental and social dimensions of health. However, the economic dimension is often neglected, and the relationship of dynamic change among successful aging indicators to overall subjective well-being was less explored. This study was to explore the life satisfaction trajectories, and the relationship of subjective economic status with the time-varying successful aging to life satisfaction among the Taiwanese elderly.

Methods: Data were from the four waves of "Survey of Health and Living Status of the Elderly in Taiwan" in this study. Multilevel regression analysis was conducted. Economic status was measured by individual-level childhood economic status and time-varying subjective economic satisfaction. Time-varying physical, mental, and social successful aging variables and demographics were also used to describe the life satisfaction trajectories.

Results: Life satisfaction showed a slightly increasing linear trajectory across time. Higher educated and female had higher increase of life satisfaction across time. Childhood financial status was not related to the life satisfaction trajectories, but the lagged ($\beta=0.338$, $p<0.05$) and the change ($\beta=0.290$, $p<0.001$) of economic satisfaction was associated with life satisfaction. The lagged and the change of depressive

symptoms and cognitive function were related to life satisfaction trajectories, but other time-varying successful aging indicators were not significant. Discussion: Subjective economic status and mental health are important factors of subjective well-being for the Taiwanese elderly. Economic security and mental health of the elderly should be particularly noticed in the elder policy.

SP-205

Informal Payment in Health Sector and Its Financial Burden to Households

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Background: Some survey reports showed that main reasons for health care service informal payment were low salary of health professionals (85.9%), limited situation of service sufficiency (84.3%), and the majority of informal payments were given in hospitalization (44.7%). According to these study result influence of this condition to individual and/or household's financing is not mentioned.

Methodology: In this study used a self-administered questionnaire and data collected from patients in the secondary and tertiary level hospitals in Ulaanbaatar city, and Darkhan-Uul, Orkhon aimags.

Objective: To identify informal payment burden to households. Results: In this study participated 673 inpatients and 35-54 year old people were the majority of the inpatients and the average age was 45, when we studied the age groups and gender relevance of total survey participants. 97.6 percent of participants had health insurance in our study, 59.6 percent of the has answered "Yes" in the question "Have you paid fees to receive other hospital services?" which implies still existing informal payment in hospitals. We found that informal payment is a financial burden to poor people and 30 percent of the family monthly income of poor household is spent on informal payment when one of the family members becomes sick. Conclusion: People are paying in average of 99200 tugriks as informal payment during hospitalization and it is becoming an extreme financial burden to poor households with low income. Although health insurance is not being able to protect the poor people from the financial risks.

SP-206

A Study on the Factors of the Willingness to Use Community-Based Long-Term Care Services

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Aim: The purpose of this research is to assess whether the disabled were willing to co-pay for community-based long-term care services.

Methods: Study subjects were selected from Sansia township, Yingge township, and Chia-yi city.

Face-to-face interviews were conducted with disabled persons. Only those who were 20 years or older and those who have responded to needing either home care, day care, or respite care were included in the analysis. The final number of respondents included was 702. Results: Respondents averaged around 65 years old. As many as two-third of them had fewer than six years of education. Less than 30% of them were willing to co-pay for using any one of these three long-term care services. Logistic regression shows that after controlling for other variables, being younger, having more ADL disabilities, and being more educated were associated with willingness to co-pay for using these services. Conclusion: Willingness to co-pay for using services were low among the disabled in need of these services. Health and social welfare agencies should attempt to increase the awareness and acceptance of co-payment among the disabled. Furthermore, a low-level of co-payment may very well significantly decrease access to community-based long-term care among the disabled, and any attempt to set the level of co-payment should be well supported by economic and service utilization research.

SP-207

Health-Related Quality of Life and Neighborhood Disadvantages among Diabetes Patients

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Objective: The purpose of this study is to examine the association of the county- and individual-level socioeconomic status, and health related quality of life of diabetes mellitus (DM) patients in Taiwan.

Methods: Data on individual-level characteristics, socioeconomic status and health related quality of life (SF-36) were obtained from National Health Interview Survey in 2005. Individual characteristics were included sex, age, and marital status; and individual socioeconomic status was measured by education attainment, employment, and household income per month. The county disadvantage score was derived from the Important Indicators of County, and was calculated for each county using a z-score summing by three indicators: (1) percentage of unemployed population, (2) percentage of population with a level of education less than high school, and (3) percentage of population living below poverty line. Multilevel model was used to examine this question.

Results: We excluded from under age 20 and missing data on individual information and the remaining study sample included 540 DM patients nested within 23 counties. County-level disadvantage score is negatively related to physical health (PCS), and positively related to mental health (MCS). Individual-level socioeconomic status such as unemployment and low income status were related to physical health and mental health, and yet marital status and education were related to mental health only.

Conclusion: Physical health and mental health are two different domains of quality of life, and both are related to neighborhood disadvantage status.

SP-208

The Effects of Perceived Health Status for Elderly on Eldest Son's and Eldest Daughter's Intergeneration Communication- A Case Study of Elderly Over Age of 60 Years

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Research Background and Purposes: The influences of population ageing and declining birthrate have led to many challenges for informal elder care, while the responsibility of informal elder care is mainly taken by adult children. Therefore, this study selected the elders of different self-perception of health conditions as research subjects, in order to investigate the generational communication between the elders and their eldest sons and daughters and to analyze the influences of extent of generational communication on self-perception of health conditions.

Research Method: This study used a secondary data analysis of cross-sectional studies to analyze the data released from the RR2006 database of the Programs for the Study of Chinese Families of Academia Sinica in 2006. The subjects were 833 elderly people over the age of 60.

Research Results: There were three findings in the results: First, in the aspect of variable of socio-demographic characteristics, elderly female, presently unemployed, had not retired, and the elderly with worse living conditions over the past year showed worse self-perception of health conditions. Second, in the aspect of variable of the extent of generational communication between the elderly people and their eldest sons and daughters, it was found that the extent of generational communication between the elders and their eldest sons had no influence on self-perception of health conditions. Third, the weaker the extent of generational communication and associational solidarity between the elders and their eldest daughters were, the worse self-perception of health conditions was.

Research Conclusions: Elderly female, presently unemployed, had not retired, and the elderly who had poor living conditions over the past year showed worse self-perception of health conditions. The elderly people who had weaker extent of associational solidarity and structural solidarity with their eldest daughters had worse self-perception of health conditions; however, the extent of generational communication between the elders and their eldest sons had no significant influence on self-perception of health conditions.

SP-209

The Caution of Children's Disease of Mongolia

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To develop of bronchitis and pneumonia of young aged children's and diseases of CVS and urinogenital system of later aged children's influenced sanitary conditions of life. In Mongolia had 541149 family, lives in ger and houses - 50,9 % and in apartment-49,1 %. Aim: The aim of research is to reveal of possible risk factors, such as sanitary household conditions of life on disease of RS, CVS and urinogenital system among children of Mongolia. Method's: Used accounting data of health of Ministry of Health of Mongolia and the Centre of Governmental Statistic's. Statistical processing is made on regression analysis on the program SPSS 11. Results of research: High risk for developing bronchitis and a pneumonia of children was residence in ger, absence of the centralized heating ($p \leq 0.001$) and impossibility of maintenance of optimum parameters of the microclimate ($p \leq 0.005$) and electrification ($p \leq 0.02$), kind of using fuel ($p \leq 0.005$), absence of the centralized removal of liquid waste ($p \leq 0.004$), absence of the electric power ($p \leq 0.01$) render system of removal of a withdrawal of residing, as removal on a garbage tank ($p \leq 0.01$). Increase of disease of urinogenital system of children on later age is connected with local heating ($p \leq 0.0009$) and transporting water supply system ($p \leq 0.02$). Conclusion: Hygienic conditions of residing of the population of Mongolia cause risk of development diseases of RS, such as a pneumonia, a bronchitis. The most significant risk factors are: absence of central heating, the electric power, kind of used fuel for local heating.

SP-210

Relationship between Childhood Living Conditions and Adulthood Health

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Objectives: This study aims to investigate the impact of childhood living conditions on adulthood health in Korea, and whether these impacts remained after controlling for the respondent's own socioeconomic status.

Methods: This study uses the 2007 National Health and Nutrition Examination Survey (NHANES), which is a nationwide survey conducted on a cross-sectional probability sample of households. Based on 1,818 adults aged 19-64 years in 2007, logistic regression analysis is performed with poor self-rated health (SRH) as an outcome variable. Childhood living conditions are measured by father's education and occupational class at age 14, and respondent's own education, occupation, age, gender and family income are used as control variables. Results: Childhood conditions were significantly associated with poor SRH. The respondents whose father's educational category was high were less likely to rate their health as poor than those whose father had no formal education, and the respondents whose father's

occupational class was non-manual or others were less likely to rate their health as poor than whose father's occupational class was manual. The associations remained relatively unchanged after controlling for the respondent's own socioeconomic status, while the effects were inconclusive for the respondents whose father had middle school education or higher.

Conclusion: Current socioeconomic status is very important predictor for individual health. This study shows that childhood living conditions also have significant impacts on adulthood health in Korea.

SP-211

Comparison of Risk Factors of Mortality between Urban and Rural Elderly Population in Korea

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Introduction: The elderly population is increasing rapidly in the world. The proportion of population aged 65 and above in South Korea is projected to rise markedly, from 9.9% in 2007, to 14.3% in 2018, and to 20.8% in 2026, becoming a hyper or post-aged society. Along with this phenomenon, it is also expected that the share of elderly population in rural area will rise remarkably, since the young population is more prone to migrate to the city than the elderly is. Place of residence has been implicated as a health determinant. Several studies have noted that a rural mortality disadvantage exists in the United States.

Objectives: This study aims to describe and compare mortality between urban and rural elderly populations in South Korea and identify factors affecting mortality disparities between two populations.

Methods: Employing the 2005 mortality data and census data provided by the National Statistical office, this study analyzes age-, sex-, and county-specific death rate.

Results: We found statistically significant regional differentials of mortality profiles. Among elderly men, the urban mortality level is much higher than that of rural. On the contrary, among elderly women, the urban mortality level is lower than that of rural. Moreover, rural men aged from 20 to 59 tend to show a higher mortality level than their urban counterparts. A further study that identifies factors causing differential mortality profiles between urban and rural is under investigation.

SP-212

Trend of Lung Cancer Mortality: A Comparison between Finland and Norway

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Objectives: The purpose of this research is to assess the trends of lung-cancer mortality and to identify relevant group-level predictors, using Finland and Norway as examples.

Materials and Methods: Data were extracted from OECD Health Data 2008. Lung-cancer mortality, health status, health-care resource, tobacco consumption, health-related expenditures, nutritional variables, and economic variables from 1960 to 2006 were included in the analysis. Pearson's correlation was used to assess the association with these variables and lung-cancer mortality. Tobacco-related policy/strategies were also compared between the two countries.

Results: Despite of showing a downward trend in tobacco consumption, Norway still exhibited an increasing trend in male lung-cancer mortality, contrary to what was observed in Finland. As for females, both countries showed an upward trend, consisted with most developed countries. Statistically significant factors related to female lung-cancer mortalities were health-care resources and utilization, and tobacco consumption. As for male lung-cancer mortality, the significant factors also included health expenditure, economic variables, and nutritional variables, in addition to health-care resources and tobacco consumption. Comparing tobacco control policies revealed that Norway focused more on legislation while Finland placed more emphasis on changing attitudes and values of the general public.

Conclusion: Some ecological-variables have been identified as predictors of lung-cancer mortality. However, the underlying mechanism of their effect on lung-cancer mortality needs to be further studies. While both Finland and Norway have reduced tobacco consumption over the years, differences in tobacco-control policies may have affected the trends in lung-cancer mortality in both countries.

SP-213

Ladies First? or Not: A Comparative Study between American and Swedish Students on Satisfaction with First Intercourse

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A survey of 182 Swedish and 290 American undergraduates participated in this study. The survey consisted demographical information (such as age at the first intercourse, ethnic and family background), situation/circumstances regarding to first sexual intercourse (such as where, whom, relationship) and a satisfaction scale (physical and emotional satisfaction).

Both Swedish and American male students were more likely to experience orgasm ($p < 0.01$) than female students. Swedish and American undergraduates reported their first sexual intercourse at very similar age. However, Swedish undergraduates were more likely to be satisfied with their first sexual intercourse experience than their American counterparts ($p < 0.5$). Compared to American students, Swedish students reported more favorable attitude toward their sexual education curriculum. Important predictors of sexual satisfaction

of first intercourse included factors such as Discussion with partner ($p < .05$), Expecting the intercourse to occur ($p < .05$), Being in love ($p < .05$), and Use of contraceptive method ($p < .05$). Implications for researcher and educators are also discussed.

SP-214

Who Talk Ethical Issues in Public Health Area?

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The increasing numbers of publications on ethics indicated its importance. To aim for the more comprehension of utilization and to point-out the status and trend of ethical issues in public health for global researchers to combat in public health field. The research data were based on SCI and SSCI database which was accessed from the ISI Web of Knowledge during 1991 to 2008. Using "ethic" to search titles, abstracts, and keywords to identify ethic-related studies in the subject categories of "public, environmental & occupational health", "health care sciences & services", "health policy & services". Parameters analyzed included document types, page count, authorship, reference count, journal, author keywords and country of publication. 4,671 papers were published with fifteen document types. Sixty-four percent of all documents were articles. Articles were the most commonly contributed document type, and 2,993 articles were analyzed in this study. The publication pattern had increased steadily in last eighteen years. The most frequently used author keywords were 'ethics' and followed by 'informed consent', 'bioethics', and 'palliative care'. All articles were published in 245 journals and from 97 countries. 8% of all articles were published in Social Science & Medicine and 7% of all articles were published in Academic Medicine. The top 3 highest percent of corresponding authors are USA (47%), UK (14%), and Canada (8.3%). The University of Toronto in Canada published the most articles with corresponding authors (1.4%).

SP-215

Identification of Elder's Characteristics Associated with Their Perceptions on Telehomecare

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Objective: Recent home care service demonstrated that the telehomecare (THC) is one of the best applications for promoting elderly health and living quality. However, patients' perception of THC technology is likely to influence its acceptability even THC progress intensified.

The purpose of this study is to evaluate the association of elder's perceptions on THC with their characteristics.

Methods: A structure questionnaire interview was applied to survey patients through Department of Family Medicine, Taichung Veterans General Hospital (TVGH). The measurement tools have been reviewed and approved by Clinical Trial Authorization from the IRB of TVGH. Patient's interviews were conducted by a group of trained interviewers. Three major classes of data were collected: patient characteristics, perceptions and expectations of THC technology. The study participants were patients who visit TVGH constantly with aged 65 and over. The study period was from August to December 2008.

Results: The average age of participants is 80. Only 21% (20 of 96) of participants heard THC before. After interview, 33% participants were intent to use THC.

There were concerns focused on the issues of cost, easy to use, clinical support, and low-efficacy related to the use of the THC. In addition, patient's perception of THC is associated with Barthel Index and accessibility of IT. **Conclusion:** Despite many advanced THC innovation, these findings suggest that elder's characteristics and needs for using the THC as important variables that should be included in future THC development.

SP-216

Banning on Tobacco Advertising as Evidence Based Policy in East Java Indonesia

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Background: Smoking rates among youth have been increasing in Indonesia where is the fourth most populous country in the world with over 217 million people, and 30 percent of the population is under 15 years of age. The goal of the research was to provide evidence on cigarette advertisement and its association to youth smoking.

Method: A survey was conducted in four districts using a modified version of the Global Youth Tobacco Survey questionnaire among 1,630 students in 40 high schools. Variables that appeared related to smoking status (current smoking) were then analyzed using multivariate logistic regression.

Results: Some exposure channels appeared to be much more effective in reaching the students audience than others. Billboard and TV advertisements were seen very often by high percentage of all students, 71% and 89%, respectively. Surprisingly, 11% of them seen cigarette advertisement on teen magazines and this medium appeared to be associated with higher current smoking prevalence. The prevalence of current smoking was especially high among those who think that smokers are perceived as attractive, smoking facilitates socialization, better group work, increased concentration, self confidence, and good grades, make life easier. The perceptions were pervasive advertising themes. In multivariate analysis, having lots of reasons to smoke

was significantly associated with increased likelihood of smoking (OR = 12.98; 7.18 – 23.46).

Conclusions: Banning cigarette advertisement is a powerful way to undermine the (erroneous) association of smoking with attractive, self confidence, etc. that is a key message of cigarette advertisement. Complete ban on advertising is mandated.

SP-217

Factors Affecting on Myanmar Youth Workers' Smoking in Mae Sot, Thailand

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The main purpose of this study was to study factors affecting on Myanmar Youth Workers' smoking in Mae Sot, Thailand. A cross-sectional study was conducted to identify the general characteristics, enabling factors, reinforcing factors, knowledge and attitude toward smoking among 225 Myanmar Youth Workers in Mae Sot, Thailand from 01.02.2007 to 19.02.2007. The results showed that average age of the study population was 21 year and 89.7% was male. 36.0% passed primary school and 54.7% are factory worker. 51.1 % has high level of knowledge towards smoking and 71.1% has positive attitude. Most start smoke early in the age of 15-19 year old. Most smoked 1 to 3 rolls per day and duration of smoked were one to two years. There was significant association with age and smoking status and between sex and smoking, between availability of cigarette and smoking status, between knowledge and smoking status. (P value 0.041) and between attitude and smoking status. (P value 0.001). The significant association was determined between selling of cigarette nearby the working environment and smoking status. It was affected by family's members smoking especially brothers or sisters smoking are associated with smoking status. Health education and health related to smoking and prevention of smoking should be provided to Myanmar youth workers. Most get the first cigarette by buying on their own is high and most start to smoke under 18 so the law prohibited should be strongly provided on youth and the cessation service should be provided.

SP-218

Experiences of Implementing a Total Smoking Ban in a Health Promoting Psychiatric Hospital in Taiwan

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Background: In Taiwan, the revised Tobacco Control Act in Taiwan required total smoking ban in all healthcare settings. Tremendous resistance existed in most psychiatric hospitals. We applied the five standards

of Ottawa Charter for health promoting hospitals to implement the total ban policy and compared the occurrence of adverse events before and after.

Methods: After the initial consensus was formed, we established a multidisciplinary committee, did a patient survey and developed an implementation plan. Major strategies included forecasting the new policy, cooperation of all parties, assuring smoke-free environments, adequately training and preparing staff, planning a therapeutic project, consulting and empowering patients and their families, and actively providing smoking cessation support. Occurrence of adverse events was monitored and analyzed. Carbon monoxide and FTND were used as an indicator of healthcare in smoking cessation.

Results: Among 182 hospitalized smokers, all were offered cessation advices, 89.6% attended focus groups, 36.8% received individual counseling, and 27.4% used medications. Patients cooperated well with the new regulations. There was no significant change in the numbers of aggression or discharge against medical advice and the number of seclusion was significantly decreased. The carbon monoxide was significant after 1st and 8th weeks of new policy. FTND was also significant in the past 3rd month and 1st week of policy.

Conclusion: With proper preparation, management and support, a total smoking ban can be introduced to an Asian psychiatric hospital without significant adverse effects.

SP-219

Relationship between Gender Equity and Health Promoting Behaviour within a Household- An Analysis of Married Men's Smoking Behaviour

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This study aims to find out the relationship between gender equity and health promoting behaviour within a household. To accommodate this study, married men's spending hours for household affairs and smoking behaviour are chosen as the index of gender equity within a household and health promoting behaviour respectively. Specific data utilised in this study are originated from the Korean Welfare Panel Study (KoWePs) 2006. The results of this study are as in the following: 1) In case of normal income household, health promoting behaviours (non-smoking behaviour) are influenced by higher family relationship satisfaction and overall life satisfaction that are increased as the married men's spending hours for household affairs increase. 2) The proportion of married men's time for housework does not impact on family relationship satisfaction, overall life satisfaction and smoking behaviour in the low income households. 3) Although the married men's spending time for household affairs on weekdays and weekends are similar in both of normal income household and low income household, married men's participation in household chores in low income group is

activated as replacement of women's work rather than sharing the household affairs with their partners. This study suggests that sharing household chores is the benefit for men rather than sacrifice of men. It is the opposite evidence towards the conservative perspective by supporting that men's participation in household affairs is not considered as men's sacrifice.

SP-221

Using Photovoice to Engage Hawaiian Youth in the Prevention of Underage Drinking

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Underage drinking (UAD) remains a public health problem with potentially severe consequences. Community-based interventions offer potential for UAD prevention. This qualitative pilot study used the PhotoVoice technique to engage youth in Hawaii in UAD prevention activities. A total of n=83 youth (ages 10-18) across all Hawaiian islands were recruited through community organizations. They met in 9 groups with trained adult facilitators who instructed them in taking pictures to document the role of alcohol and alcohol advertising in their community as well as potential ways to address the problem. In a guided discussion based on the pictures, the groups prioritized salient topics, identified target audiences to communicate their findings to, and developed strategies to address UAD in their respective communities. Among a large number of themes, the negative influence of adult family and friends on their attitudes toward UAD came up consistently. Youth were very interested in communicating their thoughts and pictures about UAD to their parents, school officials, churches and others. They developed specific strategies and projects to increase awareness about UAD and/or to change local environments to minimize alcohol exposure. The recruiting community agencies were given an opportunity to apply for small grants to follow through with some of the youth-suggested projects. This study indicates that PhotoVoice is an excellent tool to engage youth in the topic of UAD prevention. The youth were highly receptive to the topic and very engaged in developing solutions that directly affected their own living conditions in their communities.

SP-222

Conditions of Happiness that People Come Together Creative

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Abstract Chaiyaphum Province. Thailand. Survey data from state health. Found that chronic patients. 8.76%. Of

patients. The elderly at risk of chronic disease 6.02. % Because the elderly. Many must live with chronic disease conditions. Seniors who are home alone does not care. Using the exchange of learning in meeting the search Learning problems and health needs of the elderly. Cause a process of social capital and development. Design activities and health care help the elderly. Innovation. With the goal of the filter. Assess health conditions and the elderly. Search the elderly healthy. The process of creating shared goals between the organizations. Party. From the meeting. Reflect the involvement of corporate partners. Public health officials. Also Conditions of happiness that people Together

SP-223

Words Act – Speech Violates

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Widespread common sense states, that words and speech are non-persistent, non-physical and don't leave a mark. Contrariwise discussion has been ongoing for decades (Kuch 2007; Butler 1998; Bourdieu 2005). Words can discriminate, humiliate, violate and scare. Speech, at the end of the day, is action, creates social facts and determines scenarios of world views (Habermas 1995; Searl 1997). Every day communication in health systems is a marginalized venue of discriminating, humiliating, scaring interaction between involved patients and health experts, often mirroring asymmetries in society (Graumann 1998). The functional approach of Graumann/Wintermantel (2007) describes such discriminating acts of speech in professional practice.

SP-224

The Quality of Collaboration among Medical Research Centers, Universities, Health Executives and the Community in Iran

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managers is also weak, especially in knowledge utilization and priority setting. It is concluded that the policies of medical research centers should be reoriented towards the basic health problems of the country facing executive organizations as well as the community. The collaboration between RCs and the universities, the private sector and NGAAbstract: A health research system is defined as a system for planning, coordinating, monitoring and managing health research resources and activities, and for promoting research aimed at effective and equitable national health development. This study was conducted to describe the quality of mutual collaboration among medical research centers, universities, executive organizations and the community. In this situation analysis qualitative methods were applied. In-depth interviews were held with the heads of 20 research centers (RCs), 6 senior executive health

administrators at national level, 10 vice chancellors at universities and 3 directors of private medical research firms. In addition to the interviews, records and evidence were reviewed. The findings reveal that 86% of the RCs' annual budget is secured by public sources. The collaboration among the RCs, universities and organizations is informal rather than formal. The cooperation between RCs and universities in policymaking, priority setting and knowledge production and utilization is stronger than that with other organs. The RCs have weak relationships with the community. About 20% of them have no relations with the private sector. The collaboration of RCs with the executive organizations and Os should also be reinforced through networking and improvement of health information systems

SP-225

Application of Involvement to Consumers' Perspectives and Service-Seeking Behaviors of Bariatric Surgery

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Evidences showed Bariatric surgery as an effective procedure to deal with morbid obesity. In addition, the procedure has become one of services introduced to self-pay market by health care provider in order to confront the financial stress. The aims of the study are to apply involvement theory to explore the consumers' opinions on bariatric surgery and decision making behaviors in seeking bariatric surgery. The study data is collected by a structured questionnaire. The questionnaire was composed of three major dimensions including personal characteristics, services seeking behaviors, and involvement scale. A total of 124 study subjects were selected by a non-probability sampling... There are three factors identified by conducting a factor analysis. The factors include meaning to individual, meaning to social life, risk of service. The value of Body Mass Index and personal satisfaction to body weight were the personal factors that influenced the involvement level. The interviewees view the product characteristics of the bariatric surgery as fastest effect, less body weight regaining, and expensive. It was found that the consumers with high involvement level were more willing to receive the service. Through logistic regression, it was forecasted that the meaning to individual and the value of Body Mass Index were the major factors for the consumers to receive bariatric surgery. The results provide important information to providers to understand potential consumers' perception of bariatric surgery.

SP-226

Bibliometric Analysis of Biobank Literatures in the 1991-2008 Period

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The increasing numbers of publications on biobank indicate its increasing importance in the world. This study was done to quantify the scientific publications of biobank, and leads more comprehension about the trend and scope of utilization of biobank area.

Method: The documents were based on Science Citation Index (SCI) which was accessed from the ISI Web of Knowledge during the period of 1991 to 2008. Total 403 publications were analysed by the including variables: document types, page count, authorship, reference count, journal, author keywords, subject category and country of publication.

Result: Of all publications, 229 (57%) were articles, followed by meeting abstract, editorial material, news item, and review. Most articles were published in English (96%), and the UK (United Kingdom) was the most publication country (28%) and followed distantly by US (24%) and the Sweden (21%). The most frequently used author keywords were 'biobank' and followed by 'informed consent', and 'genetics'.

International Journal of Epidemiology was the most active journals with the number of publications.

Conclusions: The number of articles increased over 40-fold from 2002 to 2008, with a similar increase in total pages. The production was dominated article, by UK, published in English, and International Journal of Epidemiology.

SP-227

Determinants of Patients Satisfaction on the Hospitalization Experiences

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Background: Understanding patient's needs, preferences and expectations towards the health services through their perspective is important in improving the quality of the health services. Measuring patient satisfaction is therefore one of the many popular tools to measure and monitor health services in terms of the quality.

Aims: The study aims to identify published instrument to measure patient satisfaction for hospital stay experiences. Methods: Searches were performed in various databases using keywords such as patient, satisfaction, needs, preferences, expectations, hospitalization, in-patients, or hospital stay.

Results: A total of 3 validated instruments were found from the United Kingdom (UK), United States (US) and Australia. Aspects from 3 instruments were similar and all of them included accessibility, physical environment, communication, interpersonal relationship and discharge

information. The one from UK further emphasized the care coordination and continuity from hospital to community; while the US one included pain management and the Australia one highlighted the mechanism of complaints management. All of these 3 instruments are now used in regular patient satisfaction survey exercise in general in-patients and will be further developed for special groups including obstetrics cases, palliative cases, and cases with mental diseases.

Conclusions: A standard and validated patient satisfaction survey tool is very important for service quality improvement; however, there is no such centralized and validated survey being conducted in Chinese population, including Hong Kong. The next step of this study is to develop a validated instrument through qualitative and quantitative study in Hong Kong and conduct a benchmark survey.

SP-228

Awareness of the Senior Citizen's on the Physical Restraints in Okinawa, Japan

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The enlightening activity should be necessary to prevent the physical restraint. This study aims to reveal the awareness of the senior citizen's on the physical restraints. Senior citizens are 167 people who execute the questionnaire survey by the mailing method of the senior citizen club of 44 districts in 41 municipalities in Okinawa prefecture and obtained. As a contrast, we chose 93 non-medical faculty student and 189 health science department students. The survey was carried out with a questionnaire of J-PRUQ capable to measure the score of physical restraints. The score obtained were widely ranged from 17 to 83. It means that the more the score, the less aware of physical restraints. The average score of J-PRUQ was senior citizen was 54.9 ± 12.8 , non-medical faculty student 54.4 ± 11.6 , health science department student 49.3 ± 11.0 , and a senior citizen and non-medical faculty student had significant higher than the health science department student ($p < 0.001$). When asking it, "Has the word elderly abuse been heard?", "Does it know the law that prevents the elderly abuse?", "Does it know the physical restraint prohibition regulations?", the difference was not admitted in J-PRUQ in the answer of each group though a significant difference was seen. As for the senior citizen, 49.5% knew the physical restraint prohibition rule of the elderly abuse prevention law only by 24.6%. The enlightening activity that can be correctly understood about the cruelty prevention law and the physical restraint prohibition regulations to the general population is requested.

SP-229

Adolescent Sexuality and Childbearing in Chinese Societies

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Introduction: Following fast westernization, both Chinese societies and the lifestyles of Chinese have changed quite a lot in past decades. Among which, the adolescent sexuality is particularly concerned by educational as well as health care community..

Methods: Collected from official websites and literature, sex knowledge, sex attitude, and dating and sexual behaviors of the adolescents in Taiwan, Hong Kong and Mainland China are analyzed and compared one another.

Results: The results showed that in Hong Kong, 40% of the adolescents in the first and second grade year of junior high school had a dating experience, while 60% of students in the second and third grade year of high school did. An investigation from Mainland China shows that sexual practice occurred in 32% of teenage males and 12% of teenage females who were in love. However, only about one thirds of teens used contraceptives during their first time sexual practice, no matter in Taiwan, Hong Kong or Mainland China.

Based on a national survey in 2000, among the adolescents aged 15-19 years old, 13.9% of males and 10.4% of females (15-19 years old) in Taiwan claimed that they have had sex experience, while up to 30% of the adolescents in a metropolitan city of mainland China experienced sexual intercourse. The fertility rate for women aged 15-19 years old was 8/1000 in Taiwan, much more higher than that of 4/1000 in Japan and 2/1000 in Korean.

Conclusions: In Taiwan, Hong Kong and Mainland China, the adolescents showed a poor sex knowledge but an open sex attitudes and behaviors in terms of dating and unmarried sexual practice without safe contraception which then resulted in a high rates of unexpected pregnancy and childbearing. All these warn us to be much active in having more effective prevention and management plans on adolescent sexuality, through a comprehensive sex education, empowering teens self-efficacy and providing friendly adolescent reproductive health services.

SP-230

Women's Health after Childbirth: Experiences of Immigrant and Australian Born Women in the First Three Months Postpartum

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Objective: To investigate differences and similarities in the postpartum health status of mothers born overseas of

non-English speaking background (NESB) compared with Australian-born mothers.

Methods: Prospective pregnancy cohort study conducted in Victoria, Australia. Analyses are based on questionnaires completed in pregnancy and at three months postpartum.

Results: 1507 nulliparous women enrolled in the study (mean gestation = 15.3 weeks); 95% completed follow-up at three months postpartum. Immigrant mothers of NESB (n= 243) were more likely to have a low income, and higher educational qualifications than Australian born mothers (n =1,115). Women in both groups had similar obstetric characteristics and postpartum physical health outcomes. Immigrant women were more likely to say they had been depressed for two weeks or longer since the birth (OR =1.89, 95% CI 1.3-2.7); to report relationship problems (OR= 1.26, 95% CI 0.9-1.8) and to report lower emotional satisfaction with their relationship with the partner (OR=1.58, 95% CI 1.1-2.3). Immigrant mothers were less likely to be asked about feeling low or depressed by general practitioners (OR=0.69, 95% CI 0.5-0.9) and about relationship problems by maternal and child health nurses (OR=0.67, 95% CI 0.5-0.9).

Conclusions: Immigrant women of NESB reported greater psychological distress, less emotional satisfaction with their partner and more relationship problems in the first three months postpartum than Australian born women. Immigrant mothers had an equivalent level of contact with primary care practitioners in the first three months postpartum, but were less likely to be asked about their emotional well-being or about relationship problems.

SP-231

Coping with Infertility Marital and Social Life Experiences of Sri Lankan Women with Primary infertility

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3. University of Colombo, Sri Lanka

Introduction: Infertility threatens the marital relationship which transforms an individualized health problem into social suffering. These consequences are likely to be greater in developing nations, where motherhood enhance their status within the family and community. This study described the impact of infertility on marital and social relationships of infertile women and the coping mechanisms adopted by them in the Sri Lankan setting.

Method: In depth interviews with 30 randomly selected (of the women identified in the community prevalence survey) primary infertile women were carried out using a systematically developed pre-tested interviewer guide where all the selected informants responded.

Result: Infertility had resulted in a strained marital relationship when their initial relationship was not very stable. Their closeness to each other, intimate communication was affected while some had been abused, physically and verbally by their partners. For couples who talked to each other openly, this had been another problem in life keeping the relationship alive. The sexual relationships were affected in some. The relationship with own parents/ siblings was not usually affected but that with in-laws especially had they lived in the same household. Some were forced to divorce and excluded from family inheritance. The coping strategies adopted by them were continuing with the busy life schedule, continuing with treatment, adoption, avoiding relatives, friends and neighbours and accepting a childless life.

Conclusions: The marital and social lives of some primary infertile women were disrupted while they were trying to cope up with infertility adopting different measures.

SP-232

Health Care Seeking of Women for Delay in Child-Bearing in Sri Lanka

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Introduction: Despite the great advancements, availability of infertility services range from non-existent to virtual oversupply while utilization of available infertility services too varies due to cultural and socioeconomic differences between countries and regions. This described the health care seeking behavior of infertile women in Sri Lanka.

Method: Primary (n= 177) and secondary infertile (n= 329) women identified through community prevalence study were administered pre tested questionnaires by the interviewers.

Results: Health care seeking for infertility was 52.6 % while significantly (p<0.001) high proportion of primary infertile been ever investigated/treated (78.5%). Primary infertile couples had commenced treatment with a shorter waiting time (mean=22.91, SD = 24.90 months) and continued for a longer period (mean=31.17, SD=27.84 months), trying more methods (mean=2.56, SD=1.21) compared to secondary infertiles (61.4%, mean=26.61 SD=19.15 months, mean=18.91 SD= 20.69 months, mean=1.64 SD=0.79 respectively). Of who sought care (n=266), the majority (n=143) had opted for both medical and non-medical modalities. The most preferred sequence was from private allopathic to private allopathic to religious methods. The main reasons for discontinuing treatment were fed up with treatment and husband's unwillingness/fear of investigations. The main reason for not seeking treatment were 'too early to go for treatment' (n=21) and 'wait and see since there were

previous conceptions' (n=144) among primary and secondary infertile couples respectively.

Conclusions: Approximately half of the infertile couples were not seeking treatment. Main reason for treatment discontinuation was male partner related while not seeking help was time related.

SP-233

Psychological Well- Being and the Associated Factors of Primary Infertile Women in Sri Lanka

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Introduction: Primary infertility has a considerable impact on the psychological well-being of the female partner of a couple and studying of which would assist in providing better care for them. This study compared the psychological well being of primary infertile women with a group of fertile women and identified some demographic, treatment as well as infertility related marital and social factors associated with it.

Method: Psychological well-being of 177 primary infertile women identified in a community prevalence survey in the Colombo district, Western Province, Sri Lanka and 177 controls matched for age and duration of marriage was evaluated using the GHQ-30. A pre-tested questionnaire was used to obtain other related information. Odds ratios and logistic regression analysis was used to identify relationships among infertile women.

Results: A significantly higher proportion of primary infertile women (66.1 %; 95%CI 59.14-73.06) had psychological distress as compared to fertile women (15%; 95%CI 9.75-20.25) ($p<0.001$). After controlling for other variables, primary infertile women with a lower educational status (OR=55.34; 95%CI 15.23-201.06), poor marital communication (OR=3.45; 95%CI 1.22-9.75), higher priority for having children (OR=4.18; 95%CI 1.25-13.82), previously investigated/treated for infertility (OR=39.11; 95%CI 8.25-185.41) or currently investigated/treated for infertility (OR=10.99; 95%CI 2.98-40.61) had a higher risk for being psychologically distressed.