

54 996 eligible individuals, 52 029 (95%) responded. In 2006, we delivered another questionnaire to all community-dwelling individuals aged over 40 years in Ohsaki City. Of 77 325 eligible individuals, 49 603 (64.2%) responded. The 9206 participants who answered both questionnaires were classified by self-reported sleep duration: ≤ 5 h (short sleep), 6 h, 7 h (reference), 8 h, and ≥ 9 h (long sleep). The main outcome measure was a weight gain of ≥ 10 kg or a body mass index (BMI) of ≥ 25 kg/m² (obesity) calculated from self-reported height and weight. We used logistic regression analyses to derive ORs and 95% CIs adjusted for sex, age, BMI, education, smoking, alcohol drinking, occupation, marital status, menopausal status, and caffeine beverage consumption.

Results We observed no association between sleep duration and risk of weight gain and obesity. Multivariate ORs for weight gain were 1.14 (95% CI 0.70 to 1.87) for short sleep and 1.16 (95% CI 0.90 to 1.51) for long sleep. Multivariate ORs for obesity were 0.98 (95% CI 0.62 to 1.55) for short sleep and 1.05 (95% CI 0.83 to 1.33) for long sleep.

Conclusion Sleep duration does not affect the risk of weight gain or obesity.

P2-456 EVALUATING BURDEN OF ROTAVIRUS-ASSOCIATED MORTALITY IN THE EASTERN MEDITERRANEAN REGION; A CRUCIAL STEP FOR INFORMED DECISION-MAKING ON IMPLEMENTATION OF ROTAVIRUS VACCINE

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Introduction Rotavirus-attributed diarrhoea is a major cause of death in young children. The WHO-Eastern Mediterranean Region, with a population over 590 millions, is a diverse area in terms of socio-economic status and health indicators. This study aimed to evaluate the burden of rotavirus-associated mortality in order to encourage implementation of rotavirus vaccine.

Methods Based on rotavirus-associated mortality in the pre-vaccination period, the effect of rotavirus vaccine to avert children deaths was calculated.

Results In the Eastern Mediterranean Region more than 61 000 children aged <5 years died of rotavirus in 2004. Pakistan and Afghanistan, each with more than 15 000 deaths per year, were the countries with the highest rates of rotavirus-associated mortality; follow by Iraq, Somalia, Sudan, Yemen, Egypt and Morocco. Bahrain, Kuwait and Qatar with less than 10 deaths per year were the countries with the lowest rates of rotavirus-associated mortality. When the coverage of currently used vaccines was applied to a rotavirus vaccine, a minimum of 24 100 and maximum of 43 300 deaths would be averted with vaccine efficacy of 50% to 90%, respectively.

Conclusion Rotavirus-associated mortality and morbidity varies considerably in the region. While in some countries reducing rotavirus-associated mortality is a great concern, in others reducing rotavirus-attributed morbidity is the main benefit of rotavirus immunisation. Implementing comprehensive strategies to facilitate usage of rotavirus vaccine in the region is encouraged.

P2-457 TRADE IS ASSOCIATED WITH THE DISTRIBUTION OF UNDER, OVER, AND NORMAL WEIGHT AMONG ADULT RESIDENTS OF LOW-AND-MIDDLE-INCOME COUNTRIES: A MULTILEVEL ANALYSIS USING DATA FROM THE WORLD HEALTH SURVEYS

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Introduction Few empirical studies have investigated the relation between trade and individual weight status.

Methods We used data from a sample of 81 449 adults from 24 low-and-middle-income countries who took part in the World Health Survey, a population-based survey of adults in 2002–2003, to examine the multilevel association between trade [ie, levels of trade, imports, and foreign direct investment (FDI)] and individual-level weight status.

Results The prevalence of underweight ranged from 2.51% (SE=0.85) in Bosnia-Herzegovina to 34.03% (SE=1.05) in India and the prevalence of overweight ranged from 7.74% (SE=0.69) in India to 49.08% (SE=1.98) in Russia. Marital, economic, and health status were among the most important individual-level predictors of weight. At the macro-level, FDI as a percent of GDP was associated with lower odds of underweight relative to normal weight for rural and urban residents, independently of individual-level covariates and country-level GDP and urbanisation. However, among rural men and women, FDI was positively associated with overweight compared to normal weight; a one unit increase in net inflow of FDI as a percent of GDP was associated with a 15% higher odds of overweight relative to normal weight among rural men (OR=1.15, 95% CI 1.05 to 1.26) and women (OR=1.15, 95% CI 1.07 to 1.23).

Conclusion Trade may be associated with individual weight status.

P2-458 A DESCRIPTIVE STUDY ON THE TUBERCULOSIS IN MONGOLIA

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Introduction Tuberculosis (TB) is highly prevalent in Mongolia, where approximately 4000 TB cases reported each year. The goal of this study is to determine the incidence of tuberculosis particularly MDR-TB cases registered in Mongolia.

Methods A descriptive method was used to study the incidence of MDR-TB reported in Mongolia. The information including age, gender, date of diagnosis, type of drug resistance, treatment outcomes were taken from national report.

Results Since the first diagnosis of MDR-TB in Mongolia, a total of 419 MDR-TB cases or 1.6 per cases per 10 000 population were registered to date, which indicates the increasing tendency in the recent years. Average age (\pm SD) of 419 MDR-TB cases was 32.3 ± 10.9 , and 245 (58.5%) were males. The highest MDR-TB morbidity reported in Selenge, Darhan-Uul, Dornod provinces. More than 60% of all MDR-TB cases were reported in Ulaanbaatar city. One hundred seventy nine (42.7%) patients out of all confirmed MDR-TB cases are enrolled in treatment, 133 (31.7%) are died prior to start treatment, 5 (1.2%) are treated in non NTP units, 3 (0.7%) are refused to receive MDR-TB treatment, 99 (23.6%) patients are in waiting list. The deaths are highly reported (61.8%) since 2003 while the management of MDR-TB cases was in beginning stage and Second-line drugs was not procured.

Conclusion Incidences of tuberculosis as well as MDR-TB have been increasing during the last years in Mongolia so that early diagnosis and proper management is urgently required in this regard.

P2-459 RESILIENCE AND RISK-TAKING BEHAVIOUR AMONG THAI ADOLESCENTS

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Introduction This study aims to test the casual model of gender, family atmosphere, financial status, resilience, and risk-taking behaviour of Thai adolescents. The study also examines the direct and indirect effects among variables.

Methods The sample for this study consisted of 2715 adolescents studying at secondary schools in four regions (the central, southern, North, and Northeast) of Thailand during January to March, 2009. The model was tested using the LISREL program.

Results Data analysis shows that the proposed model was fit with the empirical data well ($\chi^2(7)=12.158$, $p=0.095$; $GFI=0.998$; $AGFI=0.996$; $RMSEA=0.017$). When considering the influence of the study variables, the results demonstrated as follows: (1) Male reported being resilient less than females and engaging in risk-taking behaviour more than females ($p<0.01$); (2) The financial status had the positively direct effect on resilience and the negatively direct effect on risk-taking behaviour. The financial status also had the indirect effects on risk-taking behaviours through resilience ($p<0.01$); (3). The family atmosphere had the positively direct effect on resilience but had the indirect effects on the risk-taking behaviour through resilience ($p<0.01$); and (4) The resilience had the negatively direct effect on the risk-taking behaviour ($p<0.01$).

Conclusion The information from this study could be applied to develop the programs to promote resilience for adolescents to prevent risk-taking behaviour.

P2-460 PROPOSED METHOD FOR EVALUATION OF FRAILTY

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Introduction The evaluation of frailty requires some measurable components. In our environment, it is known that the use of these measures on a large scale will not easily operationalise. Given this, we study the possibility of identifying the syndrome of frailty through subjective questions.

Objective To validate the subjective components for evaluation of frailty.

Method This study is part of the SABE Study - Health, Well-being and Ageing, held in São Paulo, Brazil. This analysis used 433 elderly (age ≥ 75 years) in 2009. We adopted the phenotype of frailty proposed by Fried *et al*, as a gold standard (objective evaluation of unintentional weight loss, fatigue reported, reduced grip strength, reduced walking speed and low physical activity). In this model, elderly with three or more components are considered frail; those with one or two are pre-frail. Subjective evaluation was performed using dichotomous questions for each component. We calculated the reliability, sensitivity, specificity and positive and negative predictive values.

Results The subjective evaluation of an instrument is valid and reliable. The sensitivity was 89.7% among pre-frail and 63.2% among the frail. By analysing frailty process (pre-frail+frail) the sensitivity was 90%, positive predictive value was 85.2% and negative predictive value was 32.7%.

Conclusion The subjective evaluation of frailty is a good tool to identify frailty process in elderly.

P2-461 WOMEN VULNERABILITY TO HIV/AIDS IN THE EYE OF CULTURE: A CASE STUDY OF ANAMBRA STATE IN NIGERIA

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Background Culture is people way of life but some cultures are barbaric that they contain ingredients that relegate women to the background and the situation is worsening with HIV infection. The aspect that requires urgent attention is that majority of women involved think that these cultural practices are normal thus; do not perceive any risk to HIV infection. This work was to evaluate the knowledge of rural women on sexual violence, mode of HIV transmission (cultural perspective) and predisposing cultural practices in Anambra State rural communities.

Methodology Questionnaires and In-depth Interview (IDIs) survey involved in the selection of 150 respondents through multistage technique. This structured questionnaires covered areas such as knowledge of violence, HIV/AIDS and cultural practices that make one vulnerable to HIV infection in the area.

Result All the respondents have heard of HIV/AIDS but 78% of them do not know all the modes of HIV transmission. Study further revealed that 55% of women were victims of some type of sexual coercion with a husband in their lifetime, 35% with men other than their husband, all openly admit to physical violence and that sexual violence is highly underreported. Also, all agreed to practices that helps keep their husbands or their own family lineage alive.

Conclusion There is serious need for programmers to step up efforts towards addressing reproductive health and rights of women especially widows and families without child/children otherwise the aim of impact mitigation of HIV/AIDS among women of reproductive age in the selected rural communities will be defeated.

P2-462 THE INFLUENCE OF DISTRESS ON DISABILITY, PHYSICAL ACTIVITY AND PAIN INTENSITY AFTER 7 DAYS OF ACUTE SEVERE LOW BACK PAIN

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Low back pain (LBP) is described as highly recurrent and frequently persistent public health worldwide. The "stay active" concept has been regarded as the most appropriate treatment recommendation for patients with acute LBP. The objective of this study was to evaluate the influence of distress on disability, physical activity and pain intensity in subjects with severe acute LBP.

Methods A Randomised Control Trial (RCT) was conducted, 99 employed subjects (mean age 45 years, 20–63), 61% white- and 39% blue-collar workers with acute LBP were examined within 48 h after the onset of pain. All patients were initially assessed using the Depression Anxiety and Positive Outlook Scale (DAPOS) and the Tampa Scale of Kinesiophobia (TSK) questionnaires. Thereafter, the patients documented the following in a diary over a 7-day period: pain intensity, disability rating index (DRI) and step count (pedometer). Linear Mixed Models (LMM) for repeated measures were employed for the statistical analyses. All results were adjusted for age, gender, treatment, number of days and for the interaction term (treatment *DAPOS-D).

Results Prospectively, DRI and pain intensity responses were differentially mediated by the treatment, in interaction with the