

Objectives Our aim was (a) to assess the content validity of a Thai translation/version of a quality of work-life evaluation tool, and (b) to examine its accuracy vis-à-vis nursing in Thailand.

Method Descriptive correlation study

Forward-backward translating procedures were used to develop the Thai version of the work-related quality of life scale. Six nursing experts participated in assessing content validity and 374 registered nurses (RNs) participated in its testing. After a two-week interval, 67 of the RNs were retested. Structural validity was examined using principal components analysis and the Cronbach's alphas calculated. The respective independent sample *t*-test and intra-class correlation coefficient were used to analyse known-group validity and test-retest reliability.

Sample group: Cluster sampling was used to select 374 registered nurses from the In- and Out-patient Departments t Srinagarind Hospital, Khon Kaen University.

Results The content validity index of the scale was 0.97. Principal components analysis resulted in a seven-factor model, explaining 59% of total variance (Cronbach's alpha for the subscales ranged between 0.65 and 0.84, while the overall Cronbach's alpha was 0.925). The known-group validity was established in the assessment results of the difference in bureaucrats (civil servants) vs. casual employees by *F* (8.855,0.003) and *t* (3.305, *p* < 0.01). Apparently, government employees have a better quality of work life than the university's casual employees. Good test-retest reliability was observed (*r* = 0.898, *p* < 0.01).

Conclusions The Thai version of a work-related quality of life scale appeared to be well validated and therefore useable for determining the quality of work-life among nurses in Thailand.

0427 A COHORT STUDY OF WORKERS EXPOSED TO PFOA

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Objectives PFOA has been linked to several diseases, but findings are inconclusive, and there have been no incidence studies in worker populations.

Method We interviewed 3700 workers or their next-of-kin in 2009–2011 for medical history, and sought medical records to validate self-reported disease. A job-exposure matrix based on over 2000 PFOA serum measurements was used to estimate serum levels over time for each worker, while a separate estimation was made for non-occupational exposure due to drinking PFOA-contaminated water. Cumulative dose in the serum (ng/ml-years) was the metric of interest. We studied 18 disease outcomes with 15 to 1430 cases; analyses were limited to confirmed cases.

Results The median year of birth was 1951; 5% had died. The median measured serum level was 113 ng/ml in 2005 (*n* = 1900), compared to 4 ng/ml in the US population. Among 18 outcomes studied, only ulcerative colitis (10 year lag) showed a significant trend with increasing exposure (*p* = 0.05) (RRs by quartile 1.00, 3.00, 3.26, 6.57, *p* value trend 0.05), similar to earlier findings in a community cohort study in the same area. Positive but non-significant trends were also observed for prostate cancer and non-hepatitis liver disease, and female hypothyroidism, which have been implicated in other studies. No marked trends were seen for high cholesterol, which had been seen in the community study.

Conclusions Ulcerative colitis was linked to PFOA exposure among workers. Analyses of other diseases did not show marked

trends. Data were limited by small numbers, a largely survivor cohort, and few low exposed referents.

0428 EXPOSURE-RESPONSE ANALYSES FOR SOLUBLE PLATINUM-SALT EXPOSED WORKERS AND SENSITISATION: A RETROSPECTIVE COHORT STUDY AMONG NEWLY EXPOSED WORKERS USING ROUTINELY COLLECTED SURVEILLANCE DATA

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Objectives Soluble platinum salts are well known respiratory sensitising agents leading to work related sensitisation in the work environment. No quantitative exposure response relation has been described for soluble platinum salts. The objective of this study was to explore exposure response relations for soluble platinum salt exposed workers.

Method A retrospective cohort study was conducted using routinely collected health surveillance data and soluble platinum exposure data. Workers who newly entered between 1 January 2000 and 31 December 2010 were included and the relation between measured soluble platinum exposure and sensitisation (as determined by skin prick testing) was analysed in more than 1000 refinery workers from 5 refineries from whom a total of more than 1700 personal exposure measurements were available. Exposure response relations were analysed in survival analysis considering changes in exposure over time. Associations were explored for present exposure, cumulative exposure and average exposure. The exposure was lagged by 0.5, 1.0, 1.5, etc. year with a maximum of 5 years.

Results A clear exposure response relation was observed, most strongly for present platinum salt exposure. Exposure lagging showed that exposure preceding sensitisation with maximally 1–2 years was most strongly associated with sensitisation risk. The exposure response relationship was modified by smoking and atopy, but relative risks for smoking and atopy were only modestly elevated.

Conclusions The precision of estimate of the exposure-response relationship derived from this dataset appears superior to previous epidemiologic studies conducted on platinum salt sensitisation and may as a result have possible utility to occupational exposure standard setting.

0429 CHRONIC PROBABLE POSTTRAUMATIC STRESS DISORDER AMONG POLICE REGISTRANTS IN THE WORLD TRADE CENTRE HEALTH REGISTRY TEN YEARS AFTER 9/11/01

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Objectives The World Trade Centre Health Registry (WTCHR) prospectively follows a cohort of over 71 000 individuals who reported being directly exposed to the 9/11/01 terrorist attack.

Poster presentation

Among police registrants at Survey Wave 2, 5–6 years after 9/11/01, four unique trajectories of probable PTSD symptoms were identified: resilient (83%), recovered (2.5%), delayed onset (11.2%) and chronic (5.3%). The current study documents the longitudinal trajectories of PTSD in police officers exposed to the WTC attacks at Wave 3 (2011–2012), over 10 years since the WTC attack.

Method We examined the prevalence of probable PTSD at the Wave 3 survey using a cut-off score of 44 or greater on the event-specific Posttraumatic Stress Disorder Checklist (PCL) and at least one re-experiencing symptom (DSM-IV criterion B), three avoidance or numbing symptoms (DSM-IV criterion C), and two hyperarousal symptoms (DSM-IV criterion D).

Results Probable PTSD was 14.4% (95% CI 13.0–15.9%) at Wave 2 and 12.9% (95% CI, 11.6–14.3%) at Wave 3. Significant predictors of chronic probable PTSD 10 years post-disaster ($n = 59/2241$, 2.6%) include age 45–69 (aOR 3.16, 95% CI, 1.7–6.0), number of stressful events witnessed on 9/11/01 (aOR 3.00, 1.6–5.8), five or more stressful life events since 9/11/01 (aOR 5.42, 1.9–15.2), and unmet mental health care needs (aOR 6.86, 3.3–14.1). Protective factors include social support (aOR 0.34, 0.1–0.97) and number of close friends or relatives (aOR 0.92, 0.87–0.98).

Conclusions Chronic probable PTSD among police responders continues to be a significant problem, associated both with intervening stressful life events and unmet mental health care needs.

0434 SHIFT-WORK AND CANCER RESEARCH: DEVELOPING A QUANTITATIVE APPROACH TO ASSESS CHRONODISRUPTION

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Objectives In 2007, IARC classified shift-work involving “circadian disruption” as probably carcinogenic [Group 2A]. Thereafter, 23 shift-work studies into a series of malignant endpoints provided additional epidemiologic evidence regarding chains of cancer causation, which appear biologically plausible when experimental data are considered. Since none of the studies specifically assessed “circadian disruption” or disturbed chronobiology, we ask the following: Does published research suffer from chronobiological errors? How could we assess circadian or chronodisruption [CD] in future epidemiological studies?

Method On the basis of chronobiological insights we develop a quantitative approach to assess CD for different chronotypes and for different shift-work regimens. We examine how chronobiological errors may have affected studies published so far with a focus on those which considered chronobiological information but were confined to night-work.

Results We illustrate that ignoring “internal time”, which is critically determined by an individual’s chronotype, may lead to what we propose to call “IT errors”. In addition, assessing biological effects associated with shift-work should also include *associated* activities and therefore temporal information beyond the nominal shift time. Such errors of truncating relevant “external time” information (activities at chronobiologically unusual times start before and do not end with the shift) we propose to coin “ET errors”. We propose methodologically *how* observational research may avoid potential chronobiological biases and *how* chronodisruption can be computed.

Conclusions Avoiding both IT and ET errors with regard to *any* – and not just night – shift work may be a prerequisite to assess causal links between shift-work and cancer which may remain otherwise masked.

Poster presentation

0005 COMPREHENSIVE ANALYSIS OF RESEARCH AND PROGRAM-BASED STUDIES ON OCCUPATIONAL HEALTH AND SAFETY IN THE PHILIPPINES

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Objectives This study looked into the state of occupational health and safety in the country. Specifically, the objectives were 1) to show the current condition of workers, both local and migrant, in terms of their workplace condition and hazard exposures; and 2) to present occupational diseases and illnesses in various industries and occupational groupings in the Philippines.

Method The methodology consisted of comprehensive analysis of records and statistics on occupational safety and health, and related variables from various institutions. Data were gathered from reviews of literatures, related research studies, and documentary research at the Occupational Safety and Health Centre. Analysis of data was done through a critical appraisal of the current status of occupational and health safety in the Philippines in terms of occupational diseases, injuries, and accidents, and existing occupational health and safety policies.

Results The study showed occupational hazards and health and safety conditions in various industries, occupational settings, and job groupings such as in the industrial sector, manufacturing, mining, agriculture, fishing, and cement manufacturing. It also looked into small scale and informal industries such as tanning, laundry shops, pyrotechnique manufacturing and the like. Special segments of the labour force including the women workers, child labourers and migrant workers were also covered. In all these sectors and industries, the study showed attendant occupational diseases and injuries arising from occupational hazards.

Conclusions The study showed more complete data on occupational health and safety in the Philippines considering that there is insufficient collection of OHS data by concerned government agencies.

0006 EFFECTS OF AGRICULTURAL WORK PRACTICES AND PESTICIDE USE ON OCCUPATIONAL HEALTH OF FARMERS

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Objectives This study aimed to identify the associated health symptoms between high and low exposed groups to pesticide, and to come up with an intervention pesticide program for our farmers in the vegetable industry.

Method Survey questionnaires were used to look into pesticide exposures and work practices of 534 farmers in the largest eggplant producing province in the northern Philippines. Physical health assessment was conducted by medical doctors to look into the