

P.2.38 OCCUPATIONAL EXPOSURE AND INCIDENCE OF ASTHMA BASED ON PRESCRIPTION OF DRUGS

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Prescription of drugs for obstructive lung diseases (ATC code R03) has previously been shown to be an indicator of actual asthma. In this cohort study, we have combined occupational information with data from redeemed prescriptions between 2000 and 2013 extracted from the National Danish Prescription register.

In 2003 a total of 7255 persons aged 20 and 44 years fulfilled a questionnaire, which among other things, included information on their longest held job. The jobs of 6470 were coded according to ISCO-88 and an asthma Job Exposure Matrix (JEM) was applied. Prevalent asthma was defined as at least two redeemed prescriptions of a R03 drug within 2 years. Incident asthma between 2003 and 2013 was defined as not having redeemed a R03 prescription in the previous years. Data was analyzed separately for each gender using multivariate logistic regression and presented as odds ratios (OR) with 95% confidence intervals (CI).

Among those having a job 327 (5.1%) were identified as incident cases and 467 (7.2%) as prevalent cases. In females increased incidences were seen in exposures to reactive low molecular weight (LMW) substances (OR1.47 (95% CI 1.04–2.07)), cleaning agents (OR 1.52 (1.05–2.18)), metals (OR 3.31 (1.63–6.64)), while increased prevalence was seen with mite exposure (OR 4.41 (1.74–11.2)) and irritant gases (OR 1.76 (1.16–2.69)). In males no increased incidences were seen and only an increased prevalence with mixed environments (OR 2.24 (1.13–4.43)). In jobs increased prevalence and incidence were seen in female cleaners and drivers. Increased prevalence was seen in male printing workers.

Meaningful associations with well-known asthmagenic exposures in young adults with asthma can be identified in administrative register data, and implementing the analyses of register data from larger populations will have the power to detect potential increased risks due to rare exposures or changes in risk over time.

P.2.39 PERICONCEPTIONAL EXPOSURE TO AMBIENT AIR POLLUTION AND CONGENITAL HYPOSPADIAS

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Background Evidence regarding whether prenatal exposure to air pollution increases the risk of hypospadias is limited.

Objectives The aim of the study is to evaluate the association between exposure to ambient air pollution during early pregnancy and occurrence of hypospadias.

Methods We conducted a 1:10 case-control study using the Taiwanese Birth Registry database. Those male births reported to have hypospadias were defined as cases; while controls were randomly, matched by birth year, selected from those male births without any congenital anomaly. Monthly average of ambient air pollutants, including PM10, PM2.5, NO2, NOx, and O3, from three months pre- to six months post-conception were retrieved from the 76 air quality monitoring stations and interpolated to the level of township using empirical bayesian kriging. Potential covariates to be adjusted included gestational age, birth weight, birth season, maternal age, maternal diabetes and hypertension, maternal smoking, annual household income and population density of the residential township.

Results During 2007–2014, a total of 265 hypospadias was reported, and 230 (87%) of them were full-term births. Results of multivariate logistic regression models revealed that for per IQR increase of O3 (8.0 p.p.b) exposure during the first months after conception increased the risk of hypospadias (aOR=1.38, 95% CI=1.07–1.78). In subgroup analysis of full-term births, we further found that PM2.5 exposure during the first three months post-conception significantly increased the risk of developing hypospadias (aOR=1.29, 95% CI=1.01–1.65, per IQR=15.4 ug/m3).

Conclusions The results of the study suggested that early gestational exposure to ambient air pollution increased the risk of hypospadias occurrence.

P.3.03 LOW BACK PAIN AND MANUAL PATIENT HANDLING AMONG HEALTHCARE WORKERS: A CROSS-SECTIONAL STUDY

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This cross-sectional study investigated the prevalence of low back pain and analyzed whether manual patient handling activities (MPH) were related to low back pain (LBP) in healthcare workers (HCW). Participants were HCWs working at the University Hospital of Botucatu Medical School, who were willing to participate and provided written informed consent. Of the 488 HCWs who were invited, 320 participated for a response rate of 65.6%. Data were collected using a self-administered anonymous paper questionnaire containing seven parts: manual patient handling, low back pain, demographic characteristics, occupational variables, psychosocial work conditions, lifestyle variables and history of low back pain. The association between MPH and LBP was analyzed using a Poisson regression model. Initially, simple Poisson regression models with robust variance were conducted for each covariate. Those variables with a p value ≤ 0.25 were selected for inclusion in a multiple Poisson regression model with robust variance, and those with p < 0.05 were considered statistically significant. Most respondents were female (83.8%), the mean age was 39.93 years (range 21 - 66, SD 9.78). Of those participating in the study, the majority were nursing technicians (71.3%), 19.4% were nurses, 5.3% were nurse assistants, 2.2% were physical therapists and 1.9% were radiography technicians. The 3-month period prevalence of LBP was 57.8% (95% CI 52.3%-63.2%). In the multiple Poisson regression model, MPH (PR 1.444, 95% CI 1.169-1.783)

was significantly associated with LBP, even when adjusted for other known predictive factors. Thus, preventive initiatives for low back pain among healthcare workers must focus on limiting manual patient handling and include the use of proper mechanical patient handling equipment and training on the use of these equipment.

P.3.05 MARITIME FATAL ACCIDENTS AND VESSEL DISASTERS IN TAIWANESE FISHING VESSELS, 2003–2015

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Introduction Fishery is a hazardous industry with high occupational fatalities, mainly due to vessel disasters, especially among smaller vessels, according to European and North-American studies. However, Asian countries with different industry status and larger portion of global marine capture production are short of adequate investigation.

Methods In Taiwan, Fisheries Agency provided compensation for maritime fatalities and capsizing vessels, and recorded all enrolled crews and fishing vessels in Fishery Administration Management Information System. Using these two databases, incidence rate and odds ratio (OR) were calculated to depict an overall picture of maritime fatal accidents and associated causal factors.

Results From 2003 to 2015, there were 562 cases of fatal accidents, whose mechanisms were man overboard (368, 65.5%), followed by capsizing (53, 9.4%). Overall incidence rate was 3.6 per 10 000 man-labour year. The rates were 2.51, 4.12, and 7.28 per 10 000 man-labour year, and odds ratios were 1.0, 1.64 and 2.90, for coastal (<12 Nautical miles, Nm), inshore (12–200 Nm), and deep sea (>200 Nm) fisheries.

There were 632 cases of vessel capsizing, whose mechanisms were fire (162, 25.63%), followed by natural disaster, mechanical problem (85, 13.45%), and collision (71, 11.23%). Overall incidence rate was 152.01 per 10 000 vessels. The rates were 7.15, 21.42, 71.48, and 51.95 per 10 000 vessels, and odds ratios were 1.0, 3.00, 10.05 and 7.29, for small-sized (sampan and fishing raft), small-medium-sized (<20 gross registered tonnages, GRT), medium-large-sized (20–200 GRT) and large-sized (>200 GRT) vessels.

Conclusion Our findings showed the mixed effect of vessel size and fishery types on maritime fatal accidents, and deep-sea medium-large-sized vessels, as the smallest vessels in deep sea fisheries, had the highest risk. Compared with other developed countries, more than half fishing vessels of deep sea fisheries in Taiwan are less than 100 GRT, and preventive intervention should be focused on these vessels.

P.3.06 MARITIME FATALITIES DUE TO ACUTE ILLNESS IN TAIWANESE FISHING VESSELS, 2003–2015

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Introduction Fishery is notorious for its high maritime fatalities. Apart from fatal accidents, acute illness without timely emergency medical care may be another important reason for maritime fatalities. However, compared with fatal accidents, maritime fatalities due to acute illness are much less discussed and investigated, and there is need for epidemiological evidence to support and develop preventive strategies.

Methods In Taiwan, Fisheries Agency provided compensation for maritime fatalities, and recorded all enrolled crews in Fishery Administration Management Information System. Using these two databases, incidence rate and odds ratio (OR) were calculated to depict an overall picture of maritime fatalities due to acute illness and associated causal factors.

Results From 2003 to 2015, there were 665 cases of maritime fatalities, whose mechanism were fatal accidents (562, 84.5%) and acute illness (103, 15.5%). Overall incidence rate of maritime fatalities due to acute illness was 0.67 per 10 000 man-labour year. The rates were 0.27, 0.70, and 2.58 per 10 000 man-labour year, and odds ratios were 1.0, 2.60 and 9.65, for coastal (<12 Nautical miles, Nm), inshore (12–200 Nm), and deep sea (>200 Nm) fisheries.

Conclusion Our findings showed that one in seven maritime fatalities is due to acute illness in Taiwanese fishing vessels, and deep sea fisheries had the highest risk, followed by inshore and coastal fisheries, which may be explained by difference in accessibility to emergency medical care. This calls for intervention like regular health screening and occupational health service to prevent the occurrence of acute illness in advance, especially in deep sea fisheries.

P.3.07 PROGNOSIS AND QUALITY OF LIFE IN WORKERS WITH OCCUPATIONAL UPPER LIMB INJURY

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Objectives Because literatures about health impact of occupational upper limb injury in injured workers are rare, the study aimed to investigate effects of the injury on workers' prognosis and health-related quality of life.

Methods This was a cross-sectional study of 206 workers with occupational upper limb injury recruited from two teaching hospitals. Their sociodemographic factors, work-related factors, disease severity, return to work status, psychological symptoms, and quality of life were assessed by questionnaire interview at 2 years after injury.

Results The study found that the majority of injured workers were middle-aged (44.0 ± 12.2 years) and men (58.3%). There were 36.3% workers did not return to work at 2 year post-injury. The average EQ-5D was 0.81 (ranged from 0 to 1), and the psychological symptoms using 5-item Brief Symptom Rating Scale was 4.19 (ranged from 0 to 20). The multivariable linear regression showed that high educated injured workers had poorer quality of life ($\beta = -0.218$, $p = 0.003$) and more psychological symptoms ($\beta = 6.35$, $p = 0.001$) than those with low education. In addition, workers with longer duration (months) of return to work had better quality of life ($\beta = 0.0013$, $p = 0.029$) and lesser psychological symptoms ($\beta = -0.05$, $p = 0.002$), and the workers' compensation scheme