

working at a moderate/vigorous rate and self-rated environmental heat; OR and (95% CI) for ≥ 90 v < 90 min high activity 3.6 (1.5–8.5). Irrigators were the only classification with statistically significant association with elevated core temperature; OR and (95% CI) 3.7 (1.4–9.6).

Conclusion Farmworkers, who exceed 90 min a day in moderate/vigorous activity and/or irrigators, are at higher risk of HRI. These workers may need closer monitoring for their safety.

Poster Presentation

Shift Work

0230 THE RELATIONSHIP BETWEEN SHIFT WORK AND METABOLIC SYNDROME AMONG ELECTRONICS INDUSTRY WORKERS

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Objective This study aimed to determine an association between shift work and the metabolic syndrome (MetS) in the electronics industry.

Methods In total, 12 583 employees who participated in health examination and questionnaire were evaluated. MetS was measured by the National Education Program Adult Treatment Panel III (NCEP) criteria using examination results. We performed multiple logistic regression analyses to test the relationship between shift work and MetS.

Results The prevalence rate of MetS among total group was 8.8%. After controlling for the potential confounders, MetS of male daytime workers was more prevalent compared to shift workers. However, prevalence of the MetS showed significant increasing risk according to the number of years of shift work (a period of 5–9 years : OR 3.48, 95% CI 1.20–10.08; 10–14 years : OR 4.14, 95% CI 1.34–12.74; 15 years : OR 5.72, 95% CI 1.83–17.83 vs. 1–4 years). Although no significant differences in prevalence of the MetS between daytime and shift work were observed, the risk for the development of MetS increased with accumulated years of shift work among women (a period of 5–9 years : OR 3.12, 95% CI 1.72–5.67; 10–14 years : OR 5.57, 95% CI 2.91–10.66; 15 years : OR 5.17, 95% CI 2.48–10.81 vs. 1–4 years).

Conclusion This study suggests that the duration of shift work increases the risk for developing the MetS.

Poster Presentation

Respiratory

0231 OCCUPATIONAL RESPIRABLE CRYSTALLINE SILICA EXPOSURE RELATED TO FEV₁ DECLINE AMONG NORMAL OR EARLY ABNORMAL ILO CHEST-RADIOGRAPHS OF SANDSTONE-WORKERS; A SIX MONTH FOLLOW UP

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Background Respirable crystalline silica (RCS) exposure among cottage industrial results in rising silicosis case. Therefore medical surveillance remains crucial. Recently FEV₁ decline has been established as a surveillance tool.

Objective To explore the relationship between occupational RCS exposure and FEV₁ decline among sand-stone workers who had ILO chest radiographs profusion CAG $\leq 1/1$.

Material and method This study was designed as a descriptive study. The participants were sand-stone workers and non-occupational RCS exposure (n=139) who had an ILO chest radiographs profusion CAG $\leq 1/1$. FEV₁ was measured using follow-up FVC manoeuvre spirometry testing. History of work, duration of exposure and other related issues were obtained through questionnaire interviews.

Result The majority of participants were female, non smokers and no previous respiratory diseases. Mean of FEV₁ decline was found higher in the high RCS exposure group (118.6 \pm 137.7 ml) as compared to non-occupational RCS exposure group (median 45 ml, IQR 100 ml). When subgroup of non smokers considered, being classified into high exposure was found to have the highest FEV₁ decline (99.3 ml \pm 129.9 ml.). In addition, the highest proportion of participants who had FEV₁ decline > 100 ml revealed in the high RCS exposure group (65.5%) followed by medium (43.8%) and low exposure group (19.6%) respectively .

Conclusion Intensity of RCS exposure strongly related to FEV₁ decline. FEV₁ decline more than 100 ml per year is appropriate to be used as a medical screening for RCS exposure and the effect could be found as early as six month exposure.

Poster Presentation

Specific Occupations

0233 PHYSICAL AND MENTAL HEALTH OF NON-PROFESSIONAL EMERGENCY RESPONDER IN A HEALTHCARE INSTITUTION

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