Viable bacteria and Staphylococcus aureus in air have been linked to human diseases and considered as the threats in occupational health. Rapidly and accurately monitoring these bioaerosols by a reliable method is essential in characterising human exposure and health risk. This study first evaluated quantitative PCR (qPCR) with propidium monoazide (PMA) of 1.5–46 μg/mL to exclusively quantify viable S. aureus of 3–8 log CFU/mL. Results showed qPCR with 1.5 and 2.3 μg/mL PMA performed optimal with a great linearity over six orders of magnitude ($R^2 \geq 0.9$). Viable bacteria and S. aureus were further determined with PMA-qPCR for air samples collected from places including cafeteria, kitchen, food waste recycling site and public library. Viable bacteria averaged $1.9 \times 10^4$ cells/m$^3$ ranging from $4.7 \times 10^3$ to $1.2 \times 10^5$ cells/m$^3$. S. aureus were detected in 42.3% of samples for which cell levels varied between $4.2 \times 10^3$ and $2.8 \times 10^5$ cells/m$^3$. Concentrations of S. aureus and viable bacteria were positively correlated ($r=0.61$, p<0.005) and the percentages of S. aureus among viable bacteria averaged 22.7% with 11.6%–43.6% in various locations. With the PMA-qPCR technique, this study demonstrates that the abundance of viable S. aureus and total viable bacterial aerosols in various types of occupational fields can be simultaneously quantified. This molecular assay should be taken into account as it will assist occupational hygienists and epidemiologists obtain reliable exposure data in assessing exposure and health risk, managing occupational health and protecting people from biohazards.

Poster Presentation

Injuries

0169 THE EFFECT OF PSYCHOLOGICAL SYMPTOM WITHIN 1 YEAR AFTER OCCIDENTAL INJURY ON LONG-TERM SELF-PERCEIVED HEALTH STATUS

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Background Certain proportion of workers developed psychological symptoms within 1 year after occupational injury. Mental health is associated with overall health status. However, few studies examined the effect of psychological symptoms after occupational injury on long-term health status. This study aims to determine the impact of psychological symptoms within 1 year after occupational injury on health status six years later.

Method 2308 workers who sustained an occupational injury in 2009 and responded to a survey at 3 or 12 months after their injury were followed up in 2015. At 6 years after the injury, they were invited to participate in a questionnaire survey, which included return-to-work condition and self-rated health status. Population attributable risks (PARs) were estimated to assess the effect of psychological symptom on self-rated poor health.

Results A total of 570 workers (33.5%) completed the questionnaire. Injured workers who had adverse life event within follow-up period, had family member requiring care, did not return-to-work within 1 year after the injury, had severe psychological symptom within 1 year after the injury, and whose physical appearance was severely affected had a higher risk of self-rated poor health. Adverse life event within follow-up period was most important factor, accounting for 34.3% of self-perceived poor health, followed by severe psychological symptom within 1 year after the injury (15.0%), and severely affected physical appearance (11.7%).

Conclusion Injury severity and severe psychological symptoms after occupational injury were risk factors for poor health status. Interventions addressing these factors are warranted to reduce psychological ailments after occupational injury.

Oral Presentation

Occupational Medicine (SCOM/Modernet)

0171 SEDENTARY WORK AND RISK OF VENOUS THROMBOEMBOLISM

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Objective Prolonged seated immobility during long-distance flights is related to an increased risk of venous thromboembolism (VTE) but little is known on the risk, if any, related to sedentary work. The objective of this paper was to examine the risk of VTE according to sitting posture at work.

Methods A total of 88 077 participants from the Copenhagen City Heart Study and the Copenhagen General Population Study were included in the study cohort, all without previous thromboembolic events and aged below 65 years. Activity level at work was obtained at baseline through self-administered questionnaires. VTEs were identified through national patient registries with complete coverage. Survival analyses were performed to determine the risk of VTE according to activity level at work with adjustment for a range of known determinants including lifestyle and coagulation factors.

Results During the follow-up period of 5 79 116 person years (mean follow-up, 7 years) 805 participants experienced their first venous thromboembolic event. 42% of the population categorised themselves as sedentary workers. Multivariable adjusted analyses showed no difference in risk of VTE between sedentary and walking work [hazard ratio (HR) 0.95 (95% confidence interval (CI), 0.80–1.14)]. Likewise, when considering activity level at work on a continuous scale, defined by Metabolic equivalents (METs), multivariable adjusted HR for 1 MET increase was 1.04 (95% CI 0.96–1.13).