

**Results** The analysis showed that there is a moderate and negative correlation between WAI and fatigue ( $r = -0.49$ ), showing an association between lower values of WAI and higher values of fatigue. The working week bigger than 36h showed association with the WAI ( $p = 0.009$ ). Working days less than 36h reduce, on average, 4-point score of WAI. Women presented higher tendency for fatigue (55.7% vs 25.0% for men) or lower average to WAI (43.1% vs 45.8% for men). There was no significant difference for the WAI ( $p = 0.246$ ) and fatigue (0.752) among workers with or without work restriction.

**Conclusion** There is a significant correlation between work ability and fatigue of nursing personnel, however it was noted that there is no significant differences of these indexes, considering both workers with or without work restriction.

### 169 OCCUPATIONAL FACTORS ASSOCIATED WITH LATENT TUBERCULOSIS INFECTION AND CONVERSION IN HEALTH CARE WORKERS IN A HIGH TUBERCULOSIS/HIV PREVALENCE SETTING

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**Objective** South African health care workers are at growing risk of tuberculosis (TB). This study sought occupational risk factors for latent TB infection (LTBI).

**Methods** A sample of public sector facility staff in Cape Town completed a questionnaire and underwent 3 tests for LTBI: (1) tuberculin skin test (TST) (skin induration > 10 mm) (2) QuantiFERON-TB Gold In-Tube (QFT-GIT) and (3) TSPOT. TB test. These were repeated one year later and annual rate of test conversion calculated. Occupational factors associated with baseline LTBI and conversion were sought, adjusting for age and gender and stratified by primary care vs TB hospitals.

**Results** 505 staff participated from 7 facilities. LTBI prevalence was high: TST 84%; QFT-GIT 65%; and TSPOT. TB 60%. Predictors of positive TST in primary care were employment duration >20 years [OR = 4.17 (95% CI 1.12–15.62); hospital staff with training on self-protection from TB infection were less likely to test positive [OR = 0.38 (0.16–0.91)]. Predictors of a positive QFT-GIT test in primary care were involvement in sputum collection [OR = 3.25 (1.28–8.09)] and employment >20 years [OR = 2.42 (1.09–5.38)], while again there was a protective training effect in hospital staff [OR = 0.41 (0.22–0.77)]. Predictors of a positive TSPOT. TB in primary care were providing home-based care to TB patients [OR = 4.14 (1.60 – 10.70)], and, paradoxically, working at a facility which advocated cough etiquette [OR = 2.06 (1.04 – 4.10)] or provided surgical masks to coughing patients [OR = 3.65 (1.16 – 11.51)]. The conversion rates were: TST 38% (95% CI 24–55) and QFT-GIT and TSPOT. TB both 22% (15–30). There were no consistent occupational predictors of conversion.

**Conclusion** LTBI prevalence and conversion are very high in this population, suggesting occupational risk. Occupational factors included duration and intensity of exposure (primary care, sputum collection, home visits), suggesting targets for infection control. However, more research is needed on occupational risk.

### 170 ASSOCIATION BETWEEN EXPOSURE TO MRI-RELATED MAGNETIC STRAY FIELDS AND SYMPTOMS REPORTED BY WORKERS IN THE PUBLIC HEALTH AND RESEARCH SECTOR

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**Objectives** This study aims to assess which acute symptoms are prevalent among health care and research staff working with MRI scanners, and whether these are related to their exposure to static magnetic stray fields.

**Methods** Fourteen health care and research MRI facilities were surveyed. Full-shift measurements of exposure to static and time-varying magnetic fields (SMF and TVMF) among staff were collected using personal dosimeters. Participants filled out one to two forms per shift, on which they reported their activities and symptoms they had experienced during (part of) their working day. Fourteen target symptoms were included which had been reported in literature in association with exposure to MRI-related SMF and TVMF. A subgroup of five 'core' symptoms was defined based on stronger (statistical) evidence for their association with SMF and TVMF exposure. Six additional unrelated symptoms were included to control for over-reporting of symptoms in general.

**Results** In total, 1,056 forms were completed by 334 participants. Nine out of 14 target symptoms were reported more frequently among staff exposed to SMFs, compared to unexposed staff. The proportion of forms on which at least one target symptom was reported increased with increasing scanner field strength. This trend was even stronger when focusing on the five 'core' symptoms. Strongest associations were seen for nausea, vertigo, metallic taste, and feeling of instability. No association was seen for the subgroup of unrelated symptoms.

**Conclusions** An increased number of symptoms was reported by staff working in the static magnetic stray field of an MRI-scanner. A clear trend of increased symptom reporting with increasing scanner field strength underlines the potential that a causal relation exists between exposure to MRI stray fields and specific symptoms.

### 171 HEALTH RISK WITH WORKING INFECTIOUS WASTE TRANSPORTATION FROM HOSPITAL BY PRIVATE TRANSPORT SECTOR OF THAILAND

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This study aims to identify problems and the health risk with worker who work with the infectious waste transportation (IWT) from hospital by private transport sector (PTS) in Thailand. The instrument test content validity analysis (IOC = 0.79), reliability analysis (Cobarch's alpha = 0.82). The percentage, mean, standard deviation, and logistic regression were employed to describe the data. The results are as follow:

Total of 127 workers from 13 PTSs in Thailand 86.6% of workers were male, mean age of 31 years old, most of them were married (71.7%) and the mean of working were 5.03 years. The main work were collector of 57.5%, drivers of 26%, both driver and collector of 16.5%. The mean driving time of 8 hrs a day (min:max = 2:24 hrs). 61.1% of the driver have had