

the Asbestos and Kgalagadi Relief Trusts that compensate qualifying miners and environmental claimants.

Results Women comprised 2.47% (n=394) of 15 940 cases. The women were older (56.6 ± 17.11 years) than men (53.63 ± 14.44 years) and had shorter mining-related exposures (7.21 ± 7.71 versus 18.18 ± 18.20 years). Most women had asbestos mining (46.19%) or environmental (14.72%) exposure; 87 (22.08%) were gold and 37 were platinum (9.39%) miners. Among men, there were 64.28% gold, 18.47% platinum and 5.55% asbestos miners, and 0.30% had environmental asbestos exposure. Disease proportions in women and men were: emphysema, 16.00% and 27.73%; silicosis, 3.30% and 23.13%; tuberculosis, 17.77% and 23.13%; lung cancer, 4.31% and 3.67%; asbestosis, 16.75% and 4.28% and mesothelioma, 17.26% and 2.00%.

Discussion The burden of asbestos-related diseases was high in women. The few cases of silicosis in women are an alert to high silica dust exposures. The study highlights the importance of autopsies for disease diagnosis, and education of women on mining and environmental OLD-related risks and their right to access statutory compensation.

1452 POWERFUL WOMEN'S HANDS

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Introduction In 2016 a research on musculoskeletal disorders and gender was completed, especially on the capacity of women to perform repetitive tasks involving a prehensile effort of less than 15 n or manual loads of less than 50 g per repetition, in relation to male workers.

Methods The sample was formed by 150 women and 150 men from three industrial plants located in Valencia (Venezuela), Santa Cruz (Venezuela) and Tijuana (Mexico) in fan, snacks and hydraulic connexions manufacturing sectors. The study correlated three variables: job risks (biomechanics: repetition and postures, psychosocial: quantitative psychological requirements), health valuation and average labour productivity.

Results Women had a lower biomechanical involvement in upper limbs in the presence of a similar exposure to male, having, on average, a higher rate of productivity, especially in the case of tasks of low force demand. The male group always started the days (daily and weekly) with peaks of productivity, but this was decreasing throughout the day and week; However, the productivity of the female group remained constant and was, on average, 18.3% higher than that of the male sample, taking into account the effect of absences, medical rest and turnover.

Conclusion The study does not show a greater biomechanical resistance of the female articular systems in relation to the masculine ones, but it does suggest a greater 'muscular intelligence', which acts as a protective factor and enhances productivity. From a macroergonomic point of view, the female population was more resilient, which allows maximising the learning curve, increasing labour availability and minimising turnover. These protective factors can be incorporated as part of a plan for the prevention of the ergonomic and psychosocial risks from which both genders can benefit.

1519 NIGHT WORK OF WOMEN ABOUT 50 CASES

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Introduction The work in atypical and cyclical schedules is becoming more and more current with the authorisation of night work of women and the continuous work of many companies. Regular and prolonged night work can have important repercussions, also on the health of employees and on their living conditions.

Methods This is a cross-sectional descriptive study that aims to analyse the constraints, conditions and effects of night work on women using a questionnaire distributed on 50 production operators all working in shift at night (23 hour 00–07 hour 00) with bearing system 3×8 in an automotive cabling company in Kéniterra Morocco.

Results Of the 50 operators questioned the average age is 37 years, Having 6 years of average professional seniority. 62% start work between 00:00 and 05:00 in the morning and only 24% finish their work before 03:00 in the morning. 92% of the operators report difficulty falling asleep, 82% have a disturbed sleep while 88% say that the rhythm of life impedes their social life. 90% of women have digestive disorders, 60% of which eat at irregular hours.

Discussion Many studies show that women would have more sleep deficit than men due to home bonds these results are identical to our study, since there is a high incidence of sleep disorders this can be explained that all the interviewees are female. According to Knutsson A, gastrointestinal disorders such as abdominal pain and problems of diarrhoea and constipation are more common in irregular workers than in day workers, these are similar with our study, since 90% of women present digestive disorders.

Conclusion In the light of new scientific contributions, a legal framework for night work in general is particularly necessary for women to improve working conditions and to prevent their harmful effects.

1754 INTEGRATED HEALTH-BASED RISK ASSESSMENT FRAMEWORK FOR SINGAPORE'S WORKPLACES

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Introduction Despite significant global improvement in occupational health and safety over the past few decades, workplace deaths and injuries are still occurring. At the same time, many countries are experiencing an increasing prevalence of chronic diseases due to ageing population and lifestyle factors. Currently, risk assessment does not commonly take into account employees' personal health risks. Our paper aims to review the association between chronic diseases and risk of workplace injuries, and recommend a health-based risk assessment

framework which would incorporate employees' health factors into the risk assessment process which employers are familiar with.

Methods A literature review was conducted to gather the evidence for the association between chronic diseases and risk of injuries in the workplace. A health-based risk assessment framework was constructed that incorporates employees' health factors, giving examples on how this can be done, as well as highlighting some of the challenges.

Results Many recent studies found that increased body mass index was associated with higher risk of injuries, while older workers were at risk of more severe injuries. Diabetes mellitus was also associated with workplace injuries in some studies. There were fewer studies looking at other chronic diseases such as hypertension. We will share our health-based risk assessment framework incorporating employees' health into the risk assessment process, in a comparable way as that for occupational health and safety hazards.

Discussion Including a health-based risk assessment framework into the Risk Assessment matrix can improve the integration of workplace health and safety management.

206

A FIELD TRIAL TO ASSESS THE EFFECTIVENESS OF SETTING UP MODEL OUTREACH STI/HIV CLINICS FOR FEMALE SEX WORKERS IN DELHI

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Introduction Sexually transmitted infections (STI) are associated with increased risk of HIV infection and represent a major public health problem in developing countries. The UNAIDS global guidance on HIV and sex work (2010) recommends comprehensive, accessible, acceptable, user friendly STI/HIV prevention and treatment based on local context and individual needs of female sex workers (FSWs).

Methods A field trial conducted to assess the effectiveness of specialised STI/HIV outreach clinic for FSWs. Pre and post intervention data were collected using semi-structured questionnaires (Cronbach's $\alpha=0.74$) with health counselling (safe sex, condom promotion). Data obtained on demographic characteristics, knowledge, practices, morbidity profile and clinical treatment outcomes. The study done at sentinel STI/HIV clinic near to brothels for easy accessibility. Participant's baseline assessment and management done coupled with a counselling session. Participants were followed up after 7 days and 3 months and data analysed using Mc Nemars test.

Result Out of 200 participants 156 followed up in the study. The mean age was 28.6 ± 5.2 years and 58.2% were illiterate. 48.0% participant's reported pathological discharge suggestive of STI. On lab testing, 18 subjects were HIV seropositive and referred to ART centre. Partner management for STIs done in only 35.4% cases due to noncompliance. In pre-intervention phase majority 76.0% were aware of but only 41.0% knew transmission routes correctly. 78% had ever undergone HIV testing and only 36% used condoms regularly. Significant clinical improvement and behaviour change reported in 84.3% ($p=0.003$) and 82.2% ($p=0.01$) cases respectively. There was an improved coverage, satisfaction for STI/HIV diagnostic and management services. The coverage of condom usage and

voluntary HIV testing escalated to 71.0% ($p \leq 0.01$) and 96.0% ($p=0.034$) respectively.

Discussion Creation of outreach clinics providing quality diagnostic and treatment aided by counselling services is an effective strategy for prevention and management of STI/HIV among high risk groups (FSWs).

417

LIMITED FLUID AND RESTRICTED TOILETING ARE ASSOCIATED WITH REDUCED WORK PRODUCTIVITY IN WOMEN AT WORK

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Introduction Occupational demands influence workers' fluid intake and toileting behaviours. Access to fluids and toilets is necessary for bladder health and effective management of storage urinary symptoms, including urinary frequency, urgency and incontinence. These conditions are prevalent in women, yet little is known of the relationship between fluid intake, toileting and work productivity for those with storage urinary symptoms at work.

Methods A survey was distributed to 600 female nurses and midwives at three urban hospitals between June and November 2016. Logistic modelling was used to estimate the predictive association between limited fluid intake, restricted toileting and work impairment for those with storage urinary symptoms at work. A modified version of the Work Limitations Questionnaire was used to measure time management, mental concentration and physical demands. We adjusted the model for age, body mass index, back pain, anxiety, depression, storage urinary symptoms at any time (not just at work) and other pelvic floor dysfunctions.

Results Of the included sample ($n=353$), 77.1% (95% CI: 73 to 81) delayed voiding at work, 22.4% (95% CI: 18 to 27) could not access the toilet when required, and 26.9% (95% CI: 22 to 32) reduced fluid intake to delay or avoid voiding at work. Almost half of the sample (46.7%; 95% CI: 42 to 52) reported storage urinary symptoms at work: those who limited fluids were more likely to have time management work impairment than those who didn't (OR: 3.87; 95% CI: 1.63 to 9.15). Those who delayed voiding were more likely to have concentration impairment than those who didn't (OR: 8.38; 95% CI: 1.03 to 68.45).

Discussion A worker's capacity to access fluids and toilets at work is modifiable, hence associated urinary symptoms and productivity loss may be preventable. Occupation-specific barriers to healthy bladder behaviours should be identified and redressed. Bladder health promotion should be considered for inclusion in occupational health programs.

513

WHY DO FEMALE WORKERS HAVE A GREATER RISK OF LONG-TERM CHRONIC DISEASE COMPARED TO MEN?

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