

that this is happening in many different ways, through policy and strategy, research and at the workplace. Those taking action include scientific associations, OSH organisations, equalities organisations, health organisations, employers and trade unions. The cases range from comprehensive gender-mainstreaming projects to simple steps that organisations can take to ensure that the OSH of both male and female workers is covered.

### 1278 WORK ABILITY IN BREAST CANCER WOMEN SURVIVORS: A QUESTIONNAIRE-BASED STUDY

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**Introduction** Breast cancer is the most common cancer in women worldwide. Early breast cancer diagnosis and improvement of therapeutic procedures have reduced the impact of treatment on function and increased the proportion of possibly employed survivors. The growth in female labour participation and the extension of working life have increased the number of women with breast cancer that work or have to face the issue of returning to work. The aim of the study was to identify predictors of reduced work ability at return to work among women treated for breast cancer.

**Methods** A questionnaire was sent to all 18–65 years old women resident and treated for breast cancer in Bologna Local Health Authority area in the period 2010–2012 to collect data about personal characteristics, medical history, breast cancer treatment work history and return to work. A multivariate logistic regression analysis was performed to identify predictors of reduced work ability among workingwomen.

**Results** A total of 1578 women were invited to fill in the questionnaire. The response rate was 53,3%. Data of 503 workingwomen returned to work at the time of the study were analysed.

Reduced work ability at return to work was reported by 43.5% women compared to the pre-diagnosis period. Reduced work ability was significantly more common in non-cohabiting than in cohabiting/married women, in labourers than in Office clerks/sales assistants and managers and more frequent after mastectomy than after breast-conserving interventions.

Adjustments of work activities, occupational physician visits, less support from employer and colleagues and discrimination were significantly more frequently reported by women with a reduced work ability.

**Conclusion** Perceived reduced work ability is common in women who return to work after the treatment for breast cancer. Occupational physicians and GPs should be aware of a wide asset of factors to facilitate a successful return to work.

### 13 HEALTH STATUS OF ADOLESCENT GIRLS EMPLOYED IN THE TEXTILE INDUSTRY OF TAMIL NADU, INDIA

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**Introduction** A 'marriage assistance scheme' prevails in Tamil Nadu, India, where unmarried adolescent girls are recruited to work for specified periods of time in textile factories in return for a bulk amount of money at the end of tenure, which is used for their marriage expenses. We aimed to assess the health status of adolescent girls working in such factories.

**Methods** A total of 321 adolescent girls, 107 in each study group namely, current employees, past employees and the never-been employed were interviewed for the study. Standard tools used to evaluate the health and wellbeing of the adolescents.

**Result** Significant difference was observed among the study groups in terms of health practices such as physical activity, hours of sleep, consumption of fruits and vegetables, and access to health care. Prevalence of menstrual irregularities was more among the current employees and past employees with 38.3% and 37.4% of them affected as compared to 18.7% among the never-been employed girls [AOR 2.42 (95% CI: 1.42 to 4.72)]. Among the current and the past employees, 30% reported abuse at workplace. Significant difference in conditions such as depression and behavioural problems including emotional, conduct, hyperactivity and peer-relation problems were observed between the study groups, with more number of current and past employees suffering from these issues as compared to the never-been employed adolescents [AOR 2.25 (95% CI: 1.22 to 4.14)]. Musculoskeletal pain was also more among the current and past employees, with neck and shoulder being the common regions of the body which were affected [AOR 5.28 (95% CI: 2.13 to 13.1)].

**Discussion** Current and past employees have poorer health as compared to the never-been employed adolescents. Workplace counselling could prevent mental health morbidities among the employed adolescent girls. Appropriate ergonomic measures must be undertaken at workplaces to avoid musculoskeletal disorders among current employee.

### 1391 OCCUPATIONAL LUNG DISEASES IN DECEASED SOUTH AFRICAN WOMEN IN MINING

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**Introduction** Women have worked in South African mines for over a century. During the twentieth century, employment of women underground was legally prohibited. In the asbestos mining industry, women worked in surface processing activities e.g. hand-cobbing of asbestos. Most women were undocumented in mine employment records and were thereby excluded from medical surveillance and compensation. Women continue to be exposed to asbestos in the environment. The 2004 Mining Charter permitted women to work underground and set targets to their employment across the mining industry. From 2005, the National Institute for Occupational Health (NIOH) has recorded the sex of deceased individuals examined for the detection of OLDs for statutory compensation. We compared OLDs in deceased women and men.

**Methods** Records were extracted from the PATHAUT autopsy database (2005–2015). The NIOH also performs autopsies for

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 ( $56.6 \pm 17.11$  years) than men ( $53.63 \pm 14.44$  years) and had shorter mining-related exposures ( $7.21 \pm 7.71$  versus  $18.18 \pm 18.20$  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