Epidemiology

1043 COMPARATIVE STUDY OF SHIFT WORK EFFECTS AND INJURIES AMONG NURSES WORKING IN ROTATING NIGHT SHIFT & DAY SHIFT IN INDIA

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Introduction Shift work can have an impact on the physical and psychological well-being of the health care worker. The impact can be manifold in developing countries like India, where health sector already suffers due to the poor doctor: nurse and nurse: population ratio. This study was conducted to compare the health outcomes and injuries, along with associated risk factors between the nurses working in Rotating Night Shift (RNS) as compared to Day Shift only (DS).

Methods It was a cross-sectional study conducted from June to November 2016 in a tertiary care hospital of Delhi. It involved 275 nurses working in rotating night shift and 275 nurses from day shift of various departments, selected through simple random sampling. Standard Shift Work Index Questionnaire (SSI) was used as the study instrument, with selected variables (according to objectives of the study). Data were analysed using descriptive statistics, chi-square, t-test and multivariate regression.

Result The nurses working in rotating night shifts were found to have significantly lower mean scores in job satisfaction ($p=0.04$), sleep ($p<0.001$) and psychological well-being ($p=0.047$) as compared to day shift workers. Working on a contractual basis, rotating night shift and living outside the hospital campus were associated with higher odds of having needle stick injury (NSI).

Discussion This study revealed some modifiable targets for improving shift work adaptation, e.g sleep, job satisfaction and general health. These can be modified by including appropriate interventions in their training itself, such as behavioural changes for good sleep hygiene, counselling and periodic screening. Prevention of needle stick injuries is the best strategy, but setting up of adequate surveillance mechanism in every hospital is also necessary. Fixed timing and duration of duty hours in case of rotating shifts can also contribute to lesser human errors and better job satisfaction.

1052 MIGRANT WORKERS AND OCCUPATIONAL HEALTH IN NORWAY: A PROFILE

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Introduction Norway has since 2006 experienced, an increase in migrant workers. Migrant workers are providing a valuable labour force that is contributing to the economy. But, there are several challenges that these workers face with regards to occupational health. We have limited data on migrant workers, and aim to provide a profile of occupational health challenges as they concern these workers.

Methods Data as they concern migrant worker's occupational health in Norway are scarce. The Labour Inspectorate has fatality statistics, inspections data, and there are also few studies, and surveys that provide useful information for this profile.

Result The fatality statistics in general have shown a positive trend over the past few years. What is troubling, is the proportion of migrant workers that make up the national statistic. In 2015 the 34% of all fatalities at work were migrant workers. Data on non-fatal serious injuries with the Labour Inspectorate also suggest incidence of injuries is higher among migrant workers in high-risk sectors. Self-reported surveys conducted in Norway have indicated that migrant workers have higher rate of occupational exposures compared to Norwegian workers. Our inspections data suggest that migrant workers also have long working hours, low pay and hazardous living conditions.

Discussion The data are indicating that migrant workers are likely more exposed to occupational hazards, and have precarious working and living conditions compared to Norwegian workers. The migrant workers are a hard to reach population (transitory/language barriers), moreover they are sometimes sceptical of both the research community and the regulatory institutions. This situation has implications for traditional epidemiological research, OSH practice and policy-making. Going forward OSH research, practice and policy need to develop novel methods to better protect the health and safety of migrant workers.

1054 PHYSICAL WORKLOAD EXPOSURE THRESHOLD IN CUMULATIVE-TRAUMA DISORDERS USEFUL FOR PRIMARY PREVENTION AND FOR CAUSAL ASSESSMENT: A 12.5 Y FOLLOW-UP COHORT STUDY

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Introduction Cumulative-Trauma Disorders (CTD) are major loss causes in labour environments through the world, but few is known about quantitative robust and reliable workload exposure limits. The aim of this research was to define shoulder repetitiveness exposure threshold by assessing the risk of rotator cuff, biceps and bursal injuries (dependent variable) in a cohort of workers.

Methods A retrospective cohort study was assembled with workers from different positions. Inclusion/exclusion criteria were rigorously applied. Clinical and sociodemographic variables were extracted from each worker's clinic history (age, sex, handedness, civil status, academic level, menopause, mood disorders, hyperglycemia, hyperuricema, and abnormal globular-sedimentation velocity, rheumatoid factor, reactive-c protein, thyroid-stimulating hormone and anti-nuclear antibodies). Dependent variable was obtained using nuclear magnetic resonance, ultrasound and/or surgical reports. Shoulders workload was assessed independently getting cumulative-exposure time to repetitive motions, which was adjusted by rest/break periods, maternity/paternity leave, vacations and all-causes medical absences (effective cumulative-exposure time). The exposure threshold was acquired using an adjusted multivariate Weibull regression modelling in order to control confusing effects. A Huber's M-estimator was performed warranting robust results, correcting both shoulders non-completely independent measures (two shoulders by worker).