Migrant workers

ASSESSMENT OF QUALITY OF SLEEP AND ITS ASSOCIATION WITH WORKING TIME AND SMARTPHONE USAGE AMONG RESTAURANT WORKERS IN BANGALORE – A CROSS SECTIONAL STUDY

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Introduction In India, nearly 100 million laborers depend on internal migration for subsistence. We proceeded with the study as there was a lacuna concerning the quality of sleep and the associated factors among migrant workers in restaurants.

Materials and Methods A face-validated questionnaire was used to assess socio-demographic details, working hours and smartphone usage patterns. Pittsburg Quality of Sleep Index(PQSI) was used to assess the quality of sleep of the workers. IEC approval (253/2022) was obtained for a sample size of 90. A telephonic interview was conducted among workers in the study area (Koramangala and Madiwala, Bangalore Urban) whose contacts were obtained from a previous study, using convenient sampling method.

Results The mean age of the population was 26.38±8.48, 26.7% of the people had workload extending to 11pm, mean effective working time was 10.1±1.6 hrs, median of continuous smartphone usage was found to be 60.0 (30.0 – 90.0) minutes, PQSI median score was 3 (2.00 – 5.00), 22.20% of the population was found to have inadequate sleep quality according to PQSI. Continuous usage of smartphone and total score of problematic use of smartphone was found to be significantly associated with inadequate sleep quality. Linear regression of the variables showed that total score of problematic use of smartphone was found to be independently associated with inadequate sleep quality.

Conclusion The study showed that more than 1/5 of the workers had inadequate sleep quality and that sleep delay by smartphone usage, frequent headaches due to smartphone use is associated with inadequate sleep quality. Hence the workers should be given advice on sleep hygiene and judicious use of smartphones.

Neurotoxicants/Neurologic disease

WORK-RELATED RISK FACTOR FOR MULTIPLE SCLEROSIS: A CASE CONTROL STUDY IN TUNISIA

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Introduction Multiple sclerosis (MS) is a chronic inflammatory, demyelinating and degenerative disease of the nervous system. To date, few occupational factors such as organic solvents, heavy metals, and ionizing radiation have been reported as potential risk factors of MS. The aim of this study is to identify potential occupational factors involved in the development of MS.

Methods A case-control study was conducted between January 2021 and December 2021, among patients diagnosed between January 1, 2015 and December 31, 2020 with MS and treated at the neurology department of the Sahloul University Hospital in Sousse. Controls were randomly recruited from...
patients consulting at the basic health center. Sociodemographic, medical and professional data were collected through a pre-established form.

**Results** A total of 65 patients and 130 controls matched for age, gender, and region were included in this study. The mean age was 38.4 ± 6.7 years. The sex ratio M/F was 0.38 for both groups. Respectively 77% and 54% of the patients and controls were professionally active. The mean duration of work was 13.81 years ± 8.5 years in the patients and 10.65 years ± 5.1 years in the controls. In univariate analysis, the predictive occupational factors for the occurrence of MS were the work sector, the duration of occupational exposure, and certain products such as organic products, petroleum products, pesticides, and ionizing radiation.

In multivariate analysis, the independent factors for the occurrence of MS were petroleum products (p = 0.004), pesticides (p = 0.001), ionizing radiation (p = 0.007), and the number of working hours per day (p = 0.000).

**Conclusion** According to our results, many occupational factors could increase the risk of the occurrence of MS. Targeted preventive measures are therefore required.

**Occupational epidemiology in unorganised sectors: agriculture, construction, service sectors**

**O-294 OCCUPATIONAL RISK ASSESSMENT ON HANDS AMONG GARDENERS INVOLVED WITH COMMERCIAL PLANT NURSERY INDUSTRY – UNORGANIZED SECTOR OF JABALPUR, INDIA**

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**Introduction** In today’s concrete urban spaces in India, there is an increase in demand of plants in residential households due to interior decoration, medicinal values, air purification and green space effect. Online nursery is a new supply chain business of today, generating employment for skilled, semi-skilled and unskilled labourers for propagating and growth of plants. Gardeners engaged in plant nurseries are responsible for cutting, pruning, planting, digging with the help of hand-tools. Use of different hand-tools in these plant nurseries causes both acute and chronic hand injuries among the workers. This study is focused only on the identification of hand injuries, as hands are the main body parts involved.

**Methods** This study was conducted on eighty-two gardeners involved with commercial plant nurseries of Jabalpur. Acute risk of hand, which are physically visible are identified with direct observation method such as cuts and infections while chronic hand symptoms were identified with the help of modified Boston and modified Dutch questionnaire. In chronic hand symptoms study by using modified Boston and modified Dutch questionnaire it found that 79.2% are suffering with Gamekeeper’s thumb by performing the digging activity. Lifting activity resulted wrist tendinitis of 70.6%.

**Conclusion** From this study it is evident that the gardeners involved in the plant nursery sector were exposed to higher risk of acute and chronic hand symptoms. Design intervention with ergonomic hand-tool design is the need of the hour for the growth and future prospective of this evolving business sector.

**Pesticides**

**O-305 OCCUPATIONAL EXPOSURE TO PESTICIDES AND NEUROBEHAVIORAL OUTCOMES. IMPACT OF DIFFERENT EXPOSURE MEASURES ON THE ASSOCIATION**

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**Introduction** Several measures of occupational exposure to pesticides have been used to study associations between exposure to pesticides and neurobehavioral outcomes. In a study of 246 smallholders farmers in Uganda the impact of different exposure measures for glyphosate and mancozeb based on original and recalled self-reported data on the association with neurobehavioral outcomes was studied.

**Methods** In 2017 the performance of six questionnaire-based measures of exposure the previous year was assessed. These measures entailed: (1) applicator status (yes/no), (2) number of application days, (3) exposure-intensity scores (EIS) derived from a semi-quantitative exposure algorithm and (4) number of EIS-weighted application days. We also used recalled information in 2019 for (5) applicator status and (6) EIS.

The association between the six exposure measures and six selected neurobehavioral test scores was investigated using linear multivariable regression models. The performance of the exposure measures was compared in a descriptive manner in terms of effect size (beta and 95% confidence intervals (CIs)) and p-values.

**Results** Recalled applicator status and EIS were higher for both pesticides. We observed significant negative associations between original measures of exposure to glyphosate and four neurobehavioral tests (Benton visual retention, digital symbol, finger tapping dominant hand and trail making A). Finger tapping non-dominant hand and semantic verbal fluency tests showed no association. Measures of exposure to glyphosate based on recalled information did not show any negative associations. For mancozeb none of the exposure measures were associated with neurobehavioral outcomes.

**Conclusion** The relation between different self-reported glyphosate exposure measures and neurobehavioral test scores appeared to be robust. However, when based on recalled exposure data associations were no longer present. Future epidemiological studies on self-reported exposure should critically evaluate the potential bias towards the null in observed exposure-response associations.