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

Bangaru Sai Prakash, Sangeeta Pandit, Avinash Sahu, Rajat Kamble. Ergonomics Lab, Design Discipline Indian Institute of Information Technology Design and Manufacturing Jabalpur, India

10.1136/OEM-2023-EPICOH.71

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.

Results According to the acute risk of hand study by the direct observation it was found that while planting and digging activities high percentage of pathogenic infections (sporothrasis) in hand region was observed 76.2%, cuts on the hands recorded percentage of 75.0% while performing the cutting activity. 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 tendonitis 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

Samuel Fuhrimann, Hans Kromhout, Swiss Tropical and Public Health Institute (Swiss TPH), Switzerland; Institute for Risk Assessment Sciences (IRAS), Utrecht University, Utrecht, The Netherlands

10.1136/OEM-2023-EPICOH.72

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.