Prevalence of WRMSD & Its Associated Factors among Oral Healthcare Personnel in Primary Dental Clinics in Perak: A Cross- Sectional Study

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ABSTRACT

Dentistry, like other occupational sectors, is exposed to various risks & occupational diseases. This includes ergonomic hazards which can cause musculoskeletal problems. Work related musculoskeletal disorders are caused by prolonged exposure to ergonomic hazards. It is difficult to be diagnosed as it is a chronic condition, and it gets worse with time. The count of reporting is still low as it is under reported, even though there were numerous previous studies showing high prevalence of WRMSD among oral healthcare personnel especially in Malaysia. **Objectives:** This study aimed to know the prevalence of WRMSD among oral healthcare personnel in Primary Dental Clinics in Perak and at the same time to find any association with other measured factors such as age, years of services and body mass index (BMI). **Methodology:** A cross-sectional study was done during the period of June till September 2022. Sample size was calculated using Single Proportion Formula. Samples were chosen from dentists, dental therapists, dental surgery assistants and dental attendants in 15 primary dental clinics in Perak. All samples who fulfilled the inclusion and exclusion criteria were included in the study. Nordic Musculoskeletal Discomfort Questionnaire was used and demographic data from respondents were captured. All data were entered and analyzed using SPSS version 25. Data on numerical variables were expressed by mean and standard deviation or median and IQR. Categorical variables were described using frequency and percentage for descriptive analysis. Association of WRMSD and its factors were analyzed using Independent T-Test for numerical variables and Pearson's Correlation for categorical variables. **Results:** 362 respondents who fulfilled the inclusion and exclusion criteria were included in the study. Almost half of the respondents were dentists (43.9%), followed by dental surgery assistants (22.4%), dental therapists (20.2%), dental technicians (7.2%) and dental attendants (6.4%). Majority of them were female (78.5%), Malay (71.3%), right-handed (90.1%) and married (69.6%). The mean age of the respondents was 34.9 ± 7.4, while mean years of services for them was 9.97 ± 7.5. The mean BMI for the respondents was 25.97 ± 5.9.

Most of the respondents were taught regarding ergonomics during their study period (84.3%), while 74.8% of them claimed they had joined any ergonomic courses during their working period. Neck region was found to be the highest prevalence of WRMSD (58%), followed by shoulder (48.1%), upper back (42%), lower back (40.6%) hand/wrist (31.5%), ankle/feet (21.3%), knee (12.2%), thigh (7.7%) and lastly elbow (6.9%). Younger respondents were found to be more associated with neck, shoulder and lower back pain while older personnel were found to be having association with elbow, knee and ankle/feet pain ($p<0.05$). BMI also was found to be related with knee and ankle/feet pain, as it showed statistically significant association ($p<0.05$). **Conclusion:** Prevalence of WRMSD among oral healthcare personnel in Perak was found to be high. Age, years of services and BMI was found to be associated with WRMSD. Early intervention need to be formulated as soon as possible before the condition gets worsened, as its affecting the services to patients directly and to the personnel quality of life indirectly.