

Musculoskeletal Disorders in Dentists in Shiraz, Southern Iran

Dear Editor,

Dentists are at high risk for developing many profession-related disorders such as musculoskeletal disorders (MSD).¹ In the United States, Sweden, Norway, Denmark, and Thailand, 60%, 72%, 81%, 65% and 78% of dentists reported musculoskeletal pain in the past one year, respectively.² So, this study was conducted to determine the prevalence of MSD and its considerable risk factors in Dentists in Shiraz, southern Iran.

One-hundred and ninety six dentists including general practitioners and specialists were randomly enrolled. A pre-test questionnaire was randomly completed by twenty dentists and after two months a second questionnaire was completed by the dentists in their clinics. Among the dentists, 71% were male and 29% female with the mean age of 38.3 years old (Table 1). 20% of the dentists had experienced regular, 42% sometimes, 11% occasionally and 27% never exercise. In terms of assistance, 24% of the dentists noted that assistance was always present, 56% sometimes, and 20% rarely. Eighty-seven percent of dentists noted a bending posture when doing dental procedure while only 13% stated minimal bending. Using mirror for indirect inspection, 46% used always, 40% sometimes and 14% rarely. Only 5% of the dentists used extra- light sources other than dental unit lamp or room light. A correct position against patients was noticed only by 40% of dentists including 8% in front, 52% beside and 40% behind the patients when filling the right upper molar teeth. 86.7% of the dentists reported pain in their job. Neck pain ranked the first (61.2%) followed by back pain (54.6%), wrist pain (35.7%), shoulder pain (26%), TM joint pain (3.1%), and others (8.2%).

Only dental position against patients showed a significant influence on musculoskeletal pain. ($p < 0.05$). There was no significant correlation between musculoskeletal pain and age, height, weight, dental bending forward position, exercise, using assistant, using mirror, rest breaks or sitting or standing while working ($p > 0.05$).

In general, 86.7% of the dentists complained of pain especially neck (61.2%) and back (54.6%) pains,

Table 1: Baseline and demographic information of dentists

Characteristics	Min	Max	Mean	SD
Age (year)	25	68	38.3	7.8
Weight (kg)	43	110	72	12.4
Length (cm)	140	194	17.8	9.2
Duration of employment (year)	0.1	42	11.4	8.0
Duration of daily work (hour)	1.5	15	7	2.2
Number of days working weekly	1	7	5.3	0.9
Number of patients visit daily	1	40	10.2	7.5
Rest break (minutes)	1	45	7.5	8.0

which is concordant with some studies. In Lithuania, dentists reported pain in 86.5% of cases especially in back (91%) and hands (83.1%).¹ In Belgium, 54% of the dentists complained of low back pain.³ The Danish dentists reported a prevalence of 50% of low back pain and 65% neck pain.⁴

Among Australian dentists, 87.2% experienced musculoskeletal pain at least once in a year with neck (57.5%) and back pains (53.7%) as the significant complaints.⁵ Saudi Arabian and Greek dentists expressed similar complaints.^{6,7} Musculoskeletal problems were reported in other dentists in other countries too.⁸ This remarkable health problem in dentistry is multi-factorial such as prolonged static postures and repetitive movements. In our study, poor posture was the only ergonomic factor that showed a relationship with musculoskeletal pain. With poor posture, dentists have to twist or rotate the trunk in forward position with excessive or repetitive wrist motion in hyperflexion or hyperextension status causing muscular pains and incorporates posture correction and ergonomic equipments.⁹ This cannot be achieved without education about the detrimental factors of the MSD affecting the dentists' health especially during the school time.

Keywords: Musculoskeletal disorder; Dentist; Pain; Iran

Conflict of interest: None declared.

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