

PREVALENCE OF MUSCULOSKELETAL DISORDERS AMONG DENTISTS FROM MUMBAI, INDIA

V. Limaye¹; D. Limaye¹; R. Desai²; J. Sheth²; S. Prabhu²; and G. Fortwengel¹

¹Hochschule Hannover, Hannover, Germany; and ²Institute of Chemical Technology, Mumbai, India

Background: The world health organization defines musculoskeletal disorder (MSD) as “a disorder of muscles, tendons, peripheral vascular system not directly resulting from an acute or instantaneous event.¹ Work related MSDs are one of the most important occupational hazards.¹ Among many other occupations, dentistry is a highly demanding profession that requires good visual acuity, hearing, depth perception, psychomotor skills, manual dexterity, and ability to maintain occupational postures over long periods.² Literature reviews across the world have shown a high prevalence of MSD among dentists.³⁻⁶ It has been observed among dentists worldwide that low back problems are the most common, followed by problems of the hand and wrist, neck, and shoulders with more than one third requiring medical care for MSDs and also requiring extended leave from their practice.^{7,8}

Objective: The global prevalence of MSD has been reported to be between 60% and 90% for dental practitioners,⁹ but it is not well documented in India.¹⁰ The present study was undertaken to determine the prevalence of MSDs and its effect on daily activities among dental practitioners in Mumbai, India.

Methods: This descriptive study was conducted from January to March 2015 to assess the prevalence of MSDs amongst dental practitioners in Mumbai, India. A brief information explaining the study was sent to 100 dental practitioners from Mumbai. Of these, 74

dentists were interested to participate in the study and gave their written consent to the researchers via emails. The survey instrument consisted of two parts: the demographic data and the data on work related MSDs. A pilot study was carried out among a 10 dentists from Mumbai. These dentists were not included in the final study. Study researchers took the prior appointments with 74 dentists (45 males, 39 females), and data collection was done by face to face interviews. **Results:** The response rate for this study was 74%. The main reason for non-participation was the busy schedule, lack of time and lack of interest. Majority of the practitioners had a bachelor degree in Dentistry (63.51%) and 36.49% had completed a master degree in dentistry. Most of the practitioners (77.02%) were working for 4 to 8 hours per day. Twenty-six (35.1%) practitioners were attending 20 to 40 patients per day in their clinic. There was high prevalence of MSDs (77.03%) among these dental practitioners and the prevalence was higher in male practitioners (86.6%) as compared to that in female practitioners (62%). The top three areas affected with MSD were lower back (37; 50%), neck (32; 43.2%) and shoulders (26; 35.1%). It was also seen that MSD affected daily activities of the practitioners. Twenty-four (32.4%) practitioners reported alteration of duties, 22 (29.73%) had taken sick leaves, and 20 (27.02%) reported reduction in leisure activity.

Conclusions: High prevalence of MSD (77%) existed among dental practitioner cohort from Mumbai also affecting the daily activities in one third of the practitioners. There is need to provide education about ergonomics as well as health and safety measures in dental practice and it should be imparted professionally during dental education.

Key words: Dentist, musculoskeletal disorders, occupational disorders, Mumbai, India.

References

1. Chopra A. Musculoskeletal Disorders in Dentistry- A Review. *JSM Dent.* 2013;2(3):1032.
2. Durgha K. Occupational hazards and its impact on quality of life of dentists. *IOSR Journal of Dental and Medical Sciences.* 2014;13(7):53-56.
3. Hayes M, Smith D, Cockrell D. Prevalence and correlates of musculoskeletal disorders among Australian dental hygiene students. *International Journal of Dental Hygiene.* 2009;7(3):176-181.
4. Morse T, Bruneau H, Dussetschleger J. Musculoskeletal disorders of the neck and shoulder in the dental professions. *Work.* 2010;35(4):419-429.
5. Alexopoulos E, Stathi I, Charizani F. Prevalence of musculoskeletal disorders in dentists. *BMC Musculoskeletal Disorders.* 2004;5:article 16.
6. Saiyed H, Tiwari R. Occupational health research in India. *Industrial Health.* 2004;42(2):141-148.
7. Ylipää V, Arnetz B, Preber H. Predictors of good general health, well-being, and musculoskeletal disorders in Swedish dental hygienists. *Acta Odontol Scand.* 1999;57:277-282.
8. Dong H, Loomer P, Barr A, et al. The effect of tool handle shape on hand muscle load and pinch force in a simulated dental scaling task. *Appl Ergon.* 2007; 38:525-531.
9. Gupta D, Mathur A, Patil G, et al. Prevalence of musculoskeletal disorder and alternative medicine therapies among dentists of North India: A descriptive study. *Pharmacognosy Res.* 2015;7(4): 350-354.
10. Muralidharan D, Fareed N, Shanthi M. Musculoskeletal Disorders among Dental Practitioners: Does It Affect Practice? *Epidemiology Research International.* Volume 2013, Article ID 716897, 6 pages. <http://dx.doi.org/10.1155/2013/716897>.