



PREVALENCE OF NECK PAIN IN DENTAL STUDENTS OF NAVI MUMBAI AGED 20-25 YEARS USING NECK PAIN DISABILITY INDEX SCALE

Vanashree C Nalawade*

Associate Professor, Occupational Therapy Department, D. Y. Patil University. *Corresponding Author

Asmita Karande

Occupational Therapy Department, D. Y. Patil University.

Nikita Korgaonkar

Occupational Therapy Department, D. Y. Patil University.

Zainab Jabbar

Occupational Therapy Department, D. Y. Patil University.

ABSTRACT

Background: The dentists are at high risk of neck problems due to the limited work area with a limited scope of movement and narrow visual field associated with the oral cavity. **Objectives:** *Primary Objective:* To evaluate prevalence of neck pain in dental students of Navi Mumbai aged 20-25 years using Neck Pain Disability Index (NPDI) Scale. *Secondary Objective:* To compare the severity of neck pain on various activity components of NPDI scale. **Study Design:** Cross sectional, non-randomized study design. **Study Setting:** Dental students (final year, interns & postgraduates) from Yerla Medical College and D Y Patil Dental College, working at least 3 - 8 hours per day. **Methods:** Soft copies of NPDI were provided to the students which was a self-administrative questionnaire inclusive of 10 questions based on neck pain along with demographic data. Consent was taken from all the participants through same Google form. They were graded on the basis of total score obtained. Higher score correlated to greater difficulty. **Results:** Statistical calculations were done. Among the 61 respondents, prevalence of neck pain was 53%. The mean score of neck pain on NPDI among the sample population was 12.16%, suggesting mild disability. **Conclusion:** This study concludes that there is moderate prevalence of neck pain on NPDI scale in 61 dental students.

KEYWORDS : Dental students, Neck pain, Neck pain disability index

INTRODUCTION

The dentists are at high risk of neck problems due to the limited work area with a limited scope of movement and narrow visual field associated with the oral cavity. These working restrictions frequently cause a clinician to assume stressful body positions to achieve good access and visibility inside the oral cavity (Chitara V et al; 2017). In dentistry, the work demands high precision and is often performed with the cervical spine flexed forward and rotated. This induces high static load in the neck region resulting in neck pain, tension neck syndrome, muscle imbalance or cervical instability (Ballikaya E et al; 2021). Dentists in particular are at risk for musculoskeletal disorders due to their awkward working postures, repetitive work, and prolonged standing, which damage muscles, joints, bones, ligaments, tendons, nerves, and blood vessels. Pain is particularly prevalent among dentists who work in direct vision without an assistant, or while standing, as well as among dentists who did not follow a fitness regimen (Saxena P et al; 2014).

AIMS AND OBJECTIVES

Aim:

To assess prevalence and severity of neck pain in dental students between age 20-25 years using Neck Pain Disability Index.

Objectives:

Primary Objective: To evaluate prevalence of neck pain in dental students of Navi Mumbai aged 20-25 years using Neck Pain Disability Index (NPDI) Scale.

Secondary Objective: To compare the severity of neck pain on various activity components of NPDI scale.

MATERIALS AND METHODOLOGY

Study Design:

Cross sectional, non-randomized study design.

Study Setting:

Dental students (final year, interns & postgraduates) from Yerla Medical College and D Y Patil Dental College, working at least 3 - 8 hours per day.

Methods:

Total 61 Dental students from Yerla Medical College and Dr. D Y Patil University, School of Dentistry, which includes final year students, interns & Postgraduate students who worked at least 3 - 8 hours per day. Soft copies of NPDI were provided to the students which was a self-administrative questionnaire inclusive of 10 questions based on neck pain along with demographic data (i.e. name, age, gender working hours, type of work, etc). Consent was taken from all the participants. They were graded on the basis of total score obtained. It consists of ten parts, seven of which are concerned with daily activities, two parts with pain and one with concentration problem. Each part presents a score of five scores (0 to 5).

Interpretation: 0-4 points (0-8%) No disability

5-14 points (10-28%) Mild disability

15-24 points (30-48%) Moderate disability

25-34 points (50-64%) severe disability

35-50 points (70-100%) complete disability.

The total score being expressed in terms of percentage of the whole with the higher values. A higher value represents higher degree of disability.

Inclusion Criteria:

1. Dental students of final year, interns & post-graduate student.
2. Age group between 20 to 25 years, males and females both.
3. Working hours were 3-8 hours per day.

Exclusion Criteria:

Dentists with history of spinal surgeries.

RESULTS

Among the 61 respondents, 30 were final year dental students, 30 were dental interns and 1 post graduate dentist. The sample population included 57 females (93.4%) and 4 males (6.6%). The age criteria ranging from 20 to 25 years with the mean age as 22 years.

Prevalence of neck pain among dental students is 52.45%. Among which 42.62% had mild disability and 8.19% had moderate disability and 1.63% had severe disability (Fig.1).

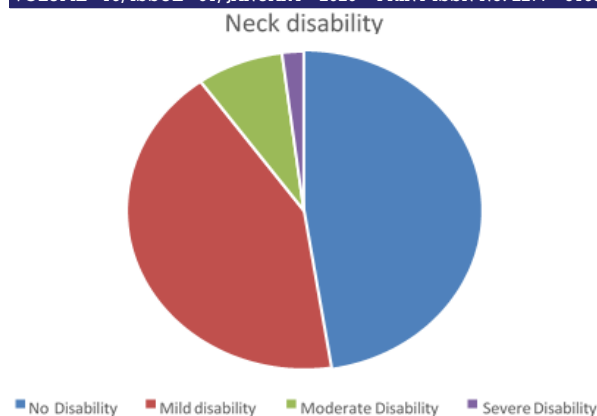
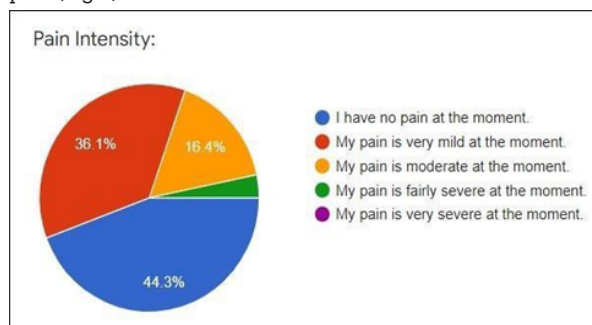


Figure 1: Neck disability

About 26% of the study population worked for 3-4 hours, 19.6 % for 4-5 hours, 19.8% for 5-6 hours, 17.5% for 6-7 hours, 17.1 % for 7- 8 working hours. However, the working hours include clinical practice in all the respondents and administrative work along with the clinical practice in 8.2% of the population.

The mean score of neck pain on NDI among the sample population was 12.16%, which is suggestive of the intensity of neck pain ranged from mild to moderate.

Pain Intensity: A majority of the study population i.e. 44.3% responded with no pain, followed by mild pain with 36.1% while 16.4% of the sample population experienced moderate pain (Fig.2).



Pain and sleeping: More than half the sample population (55.7 %) had no sleep disturbance, while 39.3% complained of occasional sleep disturbances due to neck pain. 3.3% of the sample population had a disturbed sleep regularly due to pain. 1.6% of the population having less than 5 hours of sleep in total due to the pain.

Pins, Needles or Numbness in Arms at Night: 72.1% of the sample population had no pins and needles or numbness at night. 24.6% of the population occasional experienced the above given sensations during the night. While 1.6% of the population each experienced "regular sleep disturbances" and "having less than 5 hours of sleep" due to the pins and needles or numbness at night.

Duration of Symptoms: A mean percentage of 59% had no symptoms throughout the day. 23% of the population experienced symptoms in my neck or arms on walking, which lasted less than an hour. 14.8% of the population complained of the Symptoms being present on & off for a total period of 1-4 hours. 1.6% of the population would encounter the symptoms on & off for a total of more than 4 hours. Another 1.6% of the population complained of the symptoms being present all through the day.

Carrying: A vast majority of 60.7% of the sample population could carry heavy objects without any extra pain, while 34.4%

of the population complained of experiencing extra pain on carrying heavy objects. About 3.3% of the population complained that the pain prevented them from carrying heavy objects, but could manage carrying medium weighted objects. The remaining 1.6% of the population could only lift light weight objects.

Reading and Watching TV: A mean percentage of 32.8% could Reading and Watching TV for as long as they wished with no problems. While more than half the study population (i.e. 54.1%) were able to read and watch TV for as long as they wished only if attained a suitable position. About 3.3% of the population complained that they could do these activities for as long as they wished but would cause extra pain. The other 3.3% of the population complained that they would ultimately have to stop the activities sooner than they wished to, due to the pain.

Working/Housework, Etc: A total of 63.9% of the sample population could do their usual work without any extra pain. About 31.3% of the population experienced extra pain but could complete their usual work. 3.3% of the sample population complained, that the pain prevented them from doing their usual work for more than half the usual time. The remaining 1.6% of the population experienced pain which prevented them from doing their usual work for more than a quarter of the usual time.

Social Activities: A higher percentage of the population (82%) had a normal social life with no extra pain. About 16.4% of the study population said, their social life is normal but increases the degree of pain. The remaining 1.6% of the population complained of the pain restricting their social life, but would still be able to go out.

Driving: A higher percentage of the population (82%) could drive whenever necessary without any discomfort. About 16.4% of the study population said, they could drive whenever necessary, but with discomfort. The remaining 1.6% of the population complained of neck pain or stiffness which would occasionally limit their driving.

DISCUSSION

The result of this study showed that around 14.5% of the study population responded with neck pain with the intensity of the neck pain ranging from Mild to Moderate.

The intensity of neck pain and disability and its associated factors have also been presented in this study. The sample population included 57 females and 4 males and most of our respondents were young students (20 to 25 years).

The results of the present survey showed that a vast majority of the dental students experienced mild pain while performing activities like Carrying, Reading and Watching TV, Sleeping and Household chores.

Parul Bansal et al., (2022) in their study, reported that working positions such as standing or sitting which the dentists have to maintain during the treatment of the patient, can adversely, affect the neck. Investigations using portable ergonomic devices have shown that dentists spend half of their working time with their head bent down while sitting and complain of neck pain. Prolonged working with the neck in flexion in more than 30 degrees causes neck pain. Although in this study, neck flexion during work (sitting or standing) has been observed, measurements of the angles have not been made.

Neck postures when working at a sitting position were more neutral than those postures while standing. While working in standing position, the neck postures was more asymmetric and at extremes of flexion or in other words, in ergonomically

inappropriate positions.

CONCLUSION

From this study, it can be concluded that, the severity of neck pain among dental students is mild in nature but the prevalence is moderate. Since the cervical spine and its muscles are often overstrained considering the long dental procedures and the prolonged static postures, the neck pain is largely prevalent in dental practitioners.

REFERENCES

1. Chitara V, Nishita D. Prevalence of Neck Pain among Students in Dentistry [Internet]. Academia.edu. 2017 [cited 14 June 2022]. Available from: https://www.academia.edu/44083870/Prevalence_of_Neck_Pain_among_Students_in_Dentistry
2. Ballikaya E, Kara M, Özçakar L. Caring for the Neck and Posture in Dentistry: Better Late Than Never. *Int Dent J*. 2022 Apr;72(2):150-153. doi: 10.1016/j.identj.2021.08.053. Epub 2021 Sep 24. PMID: 34565545; PMCID: PMC9275309.
3. Saxena P Gupta SK, Jain S, Jain D. Work-related musculoskeletal pain among dentists in Madhya Pradesh, India: prevalence, associated risk factors, and preventive measures. *Asia Pac J Public Health*. 2014 May;26(3):304-9. doi: 10.1177/1010539513497784. Epub 2013 Oct 4. PMID: 24097923.
4. Al Wassan KA, Almas K, Al Shethri SE, Al Qahtani M. Back & neck problems among dentists and dental auxiliaries. *J Contemp Dent Pract*. 2001;2(3):17-30.
5. Shrestha BP, Singh GK, Niraula SR. Work related complaints among dentists. *J Nepal Med Assoc*. 2008 Apr 1;47(170):77-81.
6. Bansal, A., Bansal, P., Kaur, S. and Malik, A., 2013. Prevalence Of Neck Disability Among Dental Professionals In North India. [online] Researchgate.net. <<https://www.researchgate.net/publication/2695849>