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Original Article

Prevalence Of Postural Neck Pain In BDS Students & Dentists In Year 2017: A Cross Sectional Study

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ABSTRACT

Background: The regularity of awkward actions performed by dentists such as slouching, stooping, uncomfortable posture, while sitting& bending sideways and forwards for better operation ability make dentists more disposed to the musculoskeletal pain especially neck pain. **Objective:** To determine the prevalence of postural neck pain in dentists of Gujranwala& Gujarat, Pakistan. **Methodology:** Cross sectional survey was conducted on 300 participants at 3 different hospitals of Gujranwala & Gujarat. To determine the risk factors associated with neck pain for example age, gender, work duration, work concentration, headache, sleeping disorder, lifting heavy objects were discussed using NDI questionnaire& data was analyzed using SPSS version16.0.**Results:**Out of 300 participants 68(22.67%) were males and 74(24.67%) were females with neck pain while 158(52.66%) subjects were free from neck pain. The mean age of participants was 23.42±4.46 years and the mean score of VAS was 2.69±1.47, while the mean duration of work was 4-8 hours. 6(4.2%) subjects could not concentrate their work while12(8.5%) subjects had complete sleep disturbance. Neck pain also interrupted in lifting heavy objects and 30(21.1%) subjects were unable to lift objects. Neck pain was associated with headache and 29 (20.4%) subjects had severe pain and 11 (7.7%) subjects had pain almost all the time.**Conclusion:**The prevalence ofself-reported postural neck pain in dentists was found to be 47.3% which is very high and needs further investigations.

KEY WORDS: Postural neck pain,dental professionals, Numeric pain rating scale, Neck disability index

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INTRODUCTION

Neck pain is a common disorder characterized by ache and soreness in a region between the lesser margin of the T1 and occiput. Neck pain is major public health issue, both in terms of overall well-being and personal

health. Around half from all beings will suffer with a clinically imperative neck pain episode over the way of their life expectancy[3].

The variables related with neck pain that joins rheumatologic situations include psychopathology, genetic issues, sleeping disorders, settled behavior, obesity and smoking[4-8].

Risk factors for cervical pain include trauma (e.g., whiplash damage or injuries and traumatic brain) & many sports injuries. In spite of the fact that many occupations like office workers, health care workers and manual laborers have been found in a few investigations to have a higher rate of neck pain, the real working environment factors related with the conditions are seen poor workplace environment and low job satisfaction[9].

Today, most dentists work in the position of sitting while treating the patient in supine position. As their work area (mouth of the patient) is slender and performance of dental treatment results in a very unbending work position[10].

In Pakistan, due to musculoskeletal symptoms which disturb the dentist's health significantly increase the awareness of MSK problems among dental professional.Dentistry is a rapidly growing profession in Pakistan but there is still the lack of researches on the prevalence of postural neck pain and work related risk factors in dentists. This research mainly aims at finding out the prevalence of postural neck pain among dentists. The study also highlights the important risk factors responsible for developing postural neck pain in such patients.

OBJECTIVE OF THE STUDY

Aim of this study was to find out the prevalence of postural neck pain in dentists of Gujranwala & Gujarat, Pakistan.

MATERIAL AND METHODS

RESEARCH DESIGN**:** Cross-sectional survey. The time period of the study was Dec 1st2016 till June 30th 2017.

SAMPLE SIZE:

$$SS = \frac{Z^2 * (p) * (1-p)}{c^2}$$

Estimated proportion: 0.84[11]
Alpha level: 0.05
Confidence level: 0.95
population: 207

Inclusion & Exclusion criteria: Subjects of both genders having postural neck pain since at least 6 months with intense pain during previous one week of VAS score 3 or more& limitation of cervical ROM were included in the study. The subjects were excluded if they had recent trauma, any red flags(carcinomas, bone fractures, systemic disease) and with radiating pain or nerve root involvement

SAMPLING TECHNIQUE: Convenient sampling technique was used

RESULTS

There were total 327 participants out of which 27 did not fulfill the inclusion criteria and were excluded from the study. Out of 300 participants 153(51%) were males and 147(49%) were females. The ratio of pain was high in female dentists than male dentists which were found to be 74(24.34%) while in male dentists it was 68(22.67%). (Table 1)The mean intensity of pain in respondents was 2.69±1.47 and mean score of age was 23.42±4.46 years. (Table 2) Total 142(47.33%) participants suffered from pain out of whom 121(40.33%) subjects were in the 18-20 years of age group, 14(4.67%) were in 27-35 years of age group and 7(2.33%) subject were in 36-44 years of age group.47(33.1%) subjects could completely concentrate their work, 66(46.5%) had slight difficulty in concentration, 23(16.2%) had a lot of difficulty in concentration and 6(4.2%) couldnot even concentrate due to pain.11 (7.7%) subjects had associated headache all the day due to severity of pain,29 (20.4%) had severe headache,57(40.1%) had slight pain while 10(7%) subjects no associated headache with neck

TABLE 1:
SOCIODEMOGRAPHIC PROFILE OF THE SUBJECTS WITH NECK PAIN

Variable	Pain	No pain	Total	P value
Gender				
Male	68(22.67%)	85(28.33%)	153(51%)	
Female	74(24.67)	73(24.33%)	147(49%)	
Total	142(47.34%)	158(52.66%)	300(100%)	
Age group (23.4267±4.46592)				
18-26	121(40.33)	130(43.33%)	251(83.66%)	
27-35	14(4.67%)	26(8.67%)	40(13.34%)	
36-44	7(2.33%)	2(0.67%)	9(3%)	
Total	142(47.33%)	158(52.67%)	300(100%)	
Work duration (1.5633±0.67887)				
4-6	82(27.33%)	81(27.01%)	163(54.34%)	p=0.4
7-9	47(15.67%)	58(19.33%)	105(35%)	
10-12	13(4.33%)	19(6.33%)	32(10.66%)	
Total	142(47.33%)	158(52.67%)	300(100%)	

TABLE 2:
FREQUENCY DISTRIBUTION OF PAININTENSITY (VAS)

Neck pain (VAS)	Frequency	Percent
No pain	152	50.7
Mild pain	46	15.3
Moderate pain	63	21.0
Severe pain	27	9.0
Worst pain	12	4.0
Total	300	100.0

pain. Sleep disturbance was observed with neck pain in which 12(8.5%) subjects had complete sleep disturbance, 24(16.9%) subjects had great disturbance in sleep,25(17.6%) subjects had moderate sleep disturbance, and 61 (43%) subjects had slight disturbance in sleep while 20 (14.1%) subjects had no trouble in sleep.

DISCUSSION

The objective of this cross sectional study was to determine the prevalence of postural neck pain in dentists of Gujranwala &Gujrat, Pakistan. The results showed that out of 300 participants, 153 (51%) were males and 147 (49%) were females.The prevalence of neck pain among dentists of Gujranwala and Gujarat was found to be 47.3%.Another cross-sectional study conducted in Saudi Arabia in 2008to find out the prevalence of neck pain among dentists in Saudi Arabia showed the 77.3% prevalence of neck pain among dentists and also determined the correlation between the pain symptoms and the working posture of the dentists. These results were in contrast to this current study which did not provide any correlation of pain and working posture of the dentists[12].

Although the results of the current study showed the prevalence of postural neck pain among dentists

TABLE 3:
FREQUENCY DISTRIBUTION OF VARIABLES

Concentration	**Frequency/Percentage**
Can concentrate fully.	47(33.1%)
Slight difficulty in concentrate	66(46.5%)
A lot of difficulty in concentration	23(16.2%)
Can't concentrate	6(4.2%)
Total	142(100%)
Headache	**Frequency/Percentage**
I have no headache at all.	10(7.0%)
I have slight headache.	57(40.1%)
I have moderate headache.	35(24.6%)
I have severe headache.	29(20.4%)
I have headaches all the time.	11(7.7%)
Total	142(100%)
Sleep disturbance	**Frequency/Percentage**
Have no trouble in sleep.	20(14.1%)
Slightly sleep disturbed.	61(43%)
Moderate sleep disturbance.	25(17.6%)
My sleep great disturbed.	24(16.9%)
Complete sleep disturbance.	12(8.5%)
Total	142(100%)

but did not provide any data on aggravating & relieving factors. Total 300 subjects were included in this study and the mean age of the participants was 23.4267. These results are contrasting to the results of a study conducted in 2011 in Surratt city to find out the prevalence of neck pain among dentists related to their dental work and also found out the aggravating and relieving factors associated with pain. Total 77 Dentists were selected for the study and the prevalence of neck pain came out to be 63.6%. The participants of the study having tendency to get more postural neck painwere <30 years of age[13].

This cross sectional survey was conducted with the help of NDI questionnaire that showed disturbances of different tasks of the dentists having postural neck pain, but did not provide any association of upper extremity musculoskeletal symptoms with the postural neck pain. Another cross-sectional study was conducted in China in 2014 with the purpose of finding out the prevalence of the musculoskeletal symptoms of the neck pain and also provided data on the involvement of upper extremity symptoms among dentists. A questionnaire consisting of 62 items was modified for that study including NORDIC questionnaire. A random sample was taken from 52 different hospitals in a Chinese metropolitan city. The response rate of the survey was 89.5%. 88 % dentists were reported with musculoskeletal disorders and those which were suffered from neck pain were 83.8%. This study showed alarming prevalence of neck and upper extremity in dentists in China[11].

CONCLUSION

Prevalence of self-reported postural neck pain among dentists of Gujranwala & Gujarat was found to be 47.3%. There is high percentage of concentration

disturbance, headache & sleep disturbance reported in dentists having postural neck pain. 15% subjects had mild pain, 21 % subjects had Moderate pain that was episodic, 9% subjects had severe episodic pain and 4% reported worst pain. These results showed that further investigations should be done to find out risk factors, aggravating & relieving factors and also interventions to treat this postural neck pain among dentis

REFFRENCES

1. Hayes, M., D. Cockrell, and D. Smith, A systematic review of musculoskeletal disorders among dental professionals. International journal of dental hygiene, 2009. 7(3): p. 159-165.
2. Scully, C., M. Griffiths, and R.A. Cawson, Occupational hazards to dental staff. 1990: Ishiyaku Euroamerica.
3. Fejer, R., K.O. Kyvik, and J. Hartvigsen, The prevalence of neck pain in the world population: a systematic critical review of the literature. European spine journal, 2006. 15(6): p. 834-848.
4. Hogg-Johnson, S., et al., The burden and determinants of neck pain in the general population. European Spine Journal, 2008. 17(1): p. 39-51.
5. Strine, T.W. and J.M. Hootman, US national prevalence and correlates of low back and neck pain among adults. Arthritis Care & Research, 2007. 57(4): p. 656-665.
6. Son, K.M., et al., Prevalence and risk factor of neck pain in elderly Korean community residents. Journal of Korean medical science, 2013. 28(5): p. 680-686.
7. Nilsen, T.I.L., A. Holtermann, and P.J. Mork, Physical exercise, body mass index, and risk of chronic pain in the low back and neck/shoulders: longitudinal data from the Nord-Trøndelag Health Study. American journal of epidemiology, 2011: p. kwr087.
8. Kääriä, S., et al., Risk factors of chronic neck pain: A prospective study among middle aged employees. European Journal of Pain, 2012. 16(6): p. 911-920.
9. Côté, P., et al., The burden and determinants of neck pain in workers: results of the Bone and Joint Decade 2000–2010 Task Force on Neck Pain and Its Associated Disorders. Journal of manipulative and physiological therapeutics, 2009. 32(2): p. S70-S86.
10. Kierklo, A., et al., Work-related muculoskeletal disorders among dentists-a questionnaire survey. Annals of Agricultural and Environmental medicine, 2011. 18(1).
11. Feng, B., et al., Prevalence of work-related musculoskeletal symptoms of the neck and upper extremity among dentists in China. BMJ open, 2014. 4(12): p. e006451.
12. Abduljabbar, T.A., Musculoskeletal disorders among dentists in Saudi Arabia. Pakistan Oral & Dental Journal, 2008. 28(1): p. 135-44.
13. Moradia, S. and P. Patel, A study on occupational pain among dentists of Surat City. NATIONAL JOURNAL, 2011. 2(1): p. 116.

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