ORIGINAL ARTICLE

Prevalence of Neck Pain and its effects on Activities of Daily Living among dentists working in Faisalabad

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ABSTRACT

Introduction: Chronic Neck Pain has become a severe health and socioeconomic problem in modern era. It is a leading cause of physical disability and about 70% of population experience neck pain in their lives. The neck pain is often associated with poor health, social disruption, psychological problems and previous neck injury. Dentists are at higher risk of musculoskeletal pain and disorders as they are vulnerable to mal postures. There is still not enough data reported regarding prevalence of neck pain in dentists in different districts of Pakistan. The purpose of this study was to determine the prevalence of neck pain in the dentist community of Faisalabad and to report its effect on activities of daily living

Material & Methods: A cross sectional survey was conducted on 50 dentists working in government and private hospitals and clinics in Faisalabad from January to June 2018. Participants with a history of major trauma, major surgery and other co-morbidities were excluded. Data was collected by using neck pain disability index. The collected data was entered and analyzed by using SPSS 20.0.

Results: The response rate was 100%, out of 50 dentists 30 (60%) were males and 20 (40%) were females with mean age 35.6 ± 2.00 years (mean ± sd). Our study revealed that 31 (62%) of the dentists in Faisalabad suffered from neck pain and the remaining 19 (38%) had no neck pain. Severity of the pain was reported as 18 (36%) had mild pain and about disability 14 (28%) reported no disability while 24 (48%) had mild disabilities. The study indicated that activities of daily living including to recreational activities were affected differently due to severity of neck pain amongst these dentists.

Conclusion: Dentists in Faisalabad are prone to develop neck pain due to their working poor posture. Male dentists are more vulnerable to developing neck pain compared to their counterparts' female dentists. Long working hours are the major contributing factors in neck pain amongst dentists.

Key Words: Activities of daily living, dentists, Neck pain

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INTRODUCTION

Chronic Neck Pain (CNP) has become a severe health problem and is associated with socioeconomic burden in modern era.[1] Neck pain is the leading cause of physical disability and about 70% population experience neck pain in their lives.[2] In various research studies, it has been reported that neck pain is associated with poor health, social disruption, psychological problems and previous neck injury. [3-6] Many studies showed that the dentists were at higher risk of musculoskeletal pain and associated disorders.[7] Studies reported that prevalence of shoulder, neck, arm and back pain in dentists is as high as 81% .[8] Neck pain incidence has been reported as around 71% among the dentists in another study.[9] During dental procedures, dentists bend their necks and move head forwardly, due to which muscles of upper back and neck become tight.[10] A variety of factors included practical restrictions, inadequate equipment, dedicated visual focus, work-place scenario, and robust hand-movements severely affect physical health of dentists by creating musculoskeletal pain.[11] The possible factors responsible for neck pain in dentist are wrong positioning during clinical procedures. For example, dentists bend forward in order to get better view of oral cavity, provide patient a comfortable position and adjustments for easy access to instruments and supplies. These awkward positions cause stress to neck and shoulder resulting in pain and discomfort.[12] Most significantly, 3 out of 4 dentists suffered from shoulder pain and chronic neck pain that diminishes their healthier life, working stamina, movements and professional practices longevity. Various percentages of musculoskeletal pain associated with dentists ranged from 64% to 78%. The musculoskeletal disorder causes the annual loss of 41 million US Dollars to dentists.

Dentists are more prone to develop cervical pain, shoulder pain and pain in wrist because of their working positions along with forceful and repetitive movements during clinical procedures. The most affected site is neck among the general practitioners, orthodontists and oral physicians and there is no relationship of qualification along with the area of specialization.[14] Another study reported prevalence of 85% upper back pain, 70% shoulder pain and 68% low back pain in dentists.[15] The results of a study conducted in India showed that 75.74% dentists were suffering from neck pain and 18.65% were suffering from upper back pain.[16] There are many studies related to complaints of neck pain among dentists in the western countries, however, there is scarcity of data relevant to neck or other musculoskeletal problems in dentists in Pakistan. This study was conducted to assess the complaints of neck pain among dentists in this region with the specific objective to find the prevalence of neck pain in the dental professionals of Faisalabad.

MATERIALS & METHODS

A cross sectional survey was conducted on 50 dentists of Faisalabad working in different government and private hospitals and clinics from January to June 2018. Dentists with history of major trauma, major surgery and other co-morbidities were excluded. The study was approved by the Ethical Committee of the University and informed consent was obtained from all the participants. Data was collected by using Neck Pain Disability Index (NPDI). This questionnaire has been widely used and accepted in evaluating the level of disability in patients with neck pain. NDI is the most reliable and valid questionnaire which is used to measure cervical disability.[17] Data was analyzed using SPSS version 20.

RESULTS

Out of total 50 participants, 30 (60%) were male and 20 (40%) were female with a mean age of 35.6 ± 2.00 years (mean ± sd) ranging from 24-60 years. The frequency noted for pain and disability was about 31 (62%) and 36 (72%), respectively (Table 1).

Table 1: Frequency of Neck Pain and Disability

	Pain	Disability
Yes	31 (62%)	36 (72%)
No	19 (38%)	14 (28%)

Among participants, severe, moderate and mild pain was reported by 18 (36%), 11(22%) and 1(2%) participants, respectively (table 2).

Table 2: Severity of neck pain and Disability

	Pain	Disability
Mild	18 (36%)	24 (48%)
Moderate	11 (22%)	10 (20%)
Severe	1 (2%)	2 (4%)

The results of impact of neck pain on activities of daily living showed difficulty in personal care. Out of 50 participants, 23 (46%) reported they can look after themselves without pain, 20(40%) participants reported that they can lift heavy weights without any pain whereas, 25(50%) participants reported slight pain during reading. About 19 (38%) participants reported they have slight difficulty with concentration, 20 (40%) participants reported that they can drive with slight pain.

The association of pain with gender revealed that major proportion of the male population had more pain and disability (62%) compared to the female population (38%).

Table 3: Frequencies of functional activities limitations in dentists

ADLs	Functional Activities	Frequency	%
Pain of Intensity	I have no pain at the moment.	19	38
	The pain is mild at the moment.	18	36
	The pain comes & goes & is moderate.	11	22
	The pain is moderate & does not very much.	1	2
	The pain is severe but comes & goes.	1	2
	The pain is severe & does not very much.	0	0
WASHING	I can look after myself without causing extra pain.	23	46
&DRESSING	I can look after myself normally, but it causes extra pain.	17	34
	It is painful to look after myself and I am slow & careful	6	12
	I need some help but manage most of my personal care	1	2
	I need help every day in most aspects of self-care.	3	6
LIFTING	I can lift heavy weight without extra pain	20	40
	I can lift heavy weights, but it causes extra pain.	17	34
	Pain prevents me from lifting heavy weights off the floor, but I can if they are conveniently positioned, for example on a table.	8	16
	Pain prevents me from lifting heavy weights, but I can manage light to medium weights if they are conveniently positioned.	4	8
	I can only lift very light weights	1	2
	I cannot lift or carry anything at all.	0	0
Reading	I can read as much as I want to with no pain in my neck.	16	32
	I can read as much as I want with slight pain in my neck.	25	50
	I can read as much as I want with moderate pain in my neck.	8	16
	I cannot read as much as I want because of moderate pain in my neck.	0	0
	I cannot read as much as I want because of severe pain in my neck.	1	2
	I cannot read at all because of neck pain	0	0

Headache	I have no headaches at all.	11	22
	I have slight headaches that come infrequently.	18	36
	I have moderate headaches that come in-frequently.	18	36
	I have moderate headaches that come frequently	2	4
	I have severe headaches that come frequently.	1	2
	I have headaches almost all the time	0	0
Concentration	I can concentrate fully when I want to with no difficulty.	18	36
	I can concentrate fully when I want to with slight difficulty.	19	38
	I have a fair degree of difficulty in concentrating when I want to.	10	20
	I have a lot of difficulty in concentrating when I want to.	2	4
	I have a great deal of difficulty in concentrating when I want to.	1	2
	I cannot concentrate at all. (5 pts)	0	0
Work	I can do as much work as I want to.	14	28
	I can only do my usual work but no more.	26	52
	I can do most of my usual work but no more.	7	14
	I cannot do my usual work.	2	4
	I can hardly do any work at all.	1	2
	I cannot do any work at all.	0	0
Driving	I can drive my car without neck pain. (0 pts)	17	34
	I can drive my car as long as I want with slight pain in my neck.	20	40
	I can drive my car as long as I want with moderate pain in my neck.	10	20
	I cannot drive my car as long as I want because of moderate pain in my neck.	1	2
	I can hardly drive my car at all because of severe pain in my neck.	1	2
	I cannot drive my car at all	1	2
SLEEP	I have no trouble sleeping. (0 pts)	22	44
	My sleep is slightly disturbed (less than 1 hour sleepless). (1 pt)	19	28
	My sleep is mildly disturbed (1-2 hours sleepless). (2 pts)	7	14
	My sleep is moderately disturbed (2-3 hours sleepless). (3 pts)	1	2
	My sleep is greatly disturbed (3-5 hours sleepless). (4 pts)	1	2

DISCUSSION

According to our study, 62% of dentists working in different settings of Faisalabad reported neck pain and 38% reported no pain. The findings of this study explored that almost 48% dental population is having mild neck pain disability, 20% population is having moderate neck pain disability. Cote found that disability due to neck pain is caused among the working population. [18] They showed the high burden of significant neck pain disability among those individuals whose working hours were longer, and this study has been supported by another study by Borghouts.[19] In this study there were 60% male and 40% female population and the prevalence of neck pain was more common in male population. These results are contradicted with another study that concluded no significant effect of gender on the prevalence of neck pain.[20]
This study revealed that 50% of the study population reported slight neck pain during reading and 16% population suffered from moderate intensity of neck pain which resembles with result of another study conducted in Hong Kong by Lau, Sham and Wong, (1996) they explained that reading was a major risk factor to cause neck pain.[21] According to this study 36% population had complaints of slight headache and 36% population had moderate headache infrequently, however, according to Christensen and Knardahl headache remained a common health complaint responsible for disability. [22]
This study revealed that 38% population had slight difficulty with concentration while 20% population reported fair difficulty. These results resembled with another study conducted on neck pain and its association with level of mental concentration.[23] 40% of the study population had slight neck pain during driving while 20% study population had moderate neck pain. Lavallee et al. reported that driving is one the major contributing factors to neck pain. There is an intense strain on the muscles of neck during driving that causes neck pain.[24] In our study, 38% of the participants experienced slightly disturbed sleep and 14% reported mildly disturbed sleep. Similar results have been found in another study that described problem in sleeping due to neck pain.[25]
Our study revealed that 52% of dentists were able to perform usual work and 14% dentist were able to do most of the usual work and 50% of our study population was able to engage in recreational activities with some pain while 14% of the study population was able to engage in most but not all the recreational activities. Moreover, it was found that every individual out of twenty was suffering from neck pain and had reduced ability to perform work related and recreational activities[14] More than 1/3 (34%) of our study population were able to lift heavy weights with some pain while 16% reported that pain hinders their weight lifting and 8% of the study population were able to lift medium to light weights only. This shows that the dentists feel more difficulty in lifting up the weights.
In general, the participants of study were healthy and were not victims of any chronic diseases, hence, it shows no co-relation between neck pain and medical history. The intensity of pain and level of discomfort varied according to working duration of dentist

and increased with the increasing age of the dentists. The problem of neck pain in dentist arise due to improper furniture in working stations and to overcome this dentist are working with stress that ultimately affecting their daily life and recreation as well. The finding of our study revealed that neck pain is more common among male dental practitioners than female dental practitioners. In contrary to this, one study in Iranian population concluded that female dentists complained of pain more frequently than their male counterparts.[26]

CONCLUSION

Our study reveals that the dentists of Faisalabad suffer from mild to moderate neck pain. Neck pain is more common among male dental practitioners than female dental practitioners. Most of the dentists, suffering from neck pain have history of persistent work in a bad posture and no rest breaks. It means that less rest breaks and bad working postures are important contributory factors in developing neck pain among the dentist population.

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