



RESEARCH ARTICLE

PREVALENCE OF CERVICAL PAIN AND IT'S IMPACT ON ACTIVITIES OF DAILY LIVING (ADL's) AMONG DENTAL PROFESSION

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ABSTRACT

Background: Musculoskeletal disorders or MSK disorders is more commonly seen in Dental professionals as an occupational hazard as compared to others. It was attributed numerous risk factors including prolonged static posture, repetitive movements, suboptimal lighting, poor and awkward posture adaptation, mental stress, age etc. Dentists are at high risk of musculoskeletal pain and disorders as they are vulnerable to mal-posture. As a result, several researchers found that occupational related MSD is widespread among Dental professionals and resulting in altering their work productivity. The purpose of this study is to assess the prevalence of cervical pain among the Dental community and report its impact on activities of daily living. **Objectives:** To assess the prevalence of cervical pain in Dental professionals and its impact on activities of daily living by using neck disability index (NDI). **Materials and Methods:** A survey study was conducted on 47 dentists working in government and private hospitals and clinics in Nagpur, Maharashtra. Participants with history of major trauma, major surgery, and other comorbidities were excluded. Data was collected by using the neck disability index. The collected data was entered and analysed by using graph pad prism 5. **Statistical Analysis Used:** A frequency and percentage table was used to analyse prevalence of cervical pain among the dentist community. **Results:** The response rate was 100% out of 47 dentists 32 were males and 15 were females with age group range 30 to 50 years with 5 years of experience. The neck disability index was used to analyse the severity. Our study reveals that 0(0.00%) male found to be having no disability, while 6(40%) females found to be with no disability. In case of mild disability male 20(62.5%) male were recorded while 9(60%) females were recorded in this. In moderate male 12(37.5%) found to be positive in females no such evidence recorded. **Conclusions:** Dentists are prone to develop cervical pain due to their awkward and poor posture. The male candidates are more vulnerable to develop cervical pain as compared to females. Prolonged static posture, repetitive movements and long working hours without rest periods are major contributing factors in cervical discomfort among dentists.

INTRODUCTION

Musculoskeletal disorders or MSK disorders is more commonly seen in Dental professionals as an occupational hazard as compared to others. Often one of the reasons can be inappropriate working posture. This disorders may result in even abandonment of Dental profession which will eventually cause negative impact on either financially or mental health as well. Musculoskeletal disorders are injuries or disorders that affect the musculoskeletal system. It was attributed numerous risk factors that included prolonged static posture, repetitive movements, suboptimal lighting, poor or awkward posture adaptations, mental stress, age etc. The awkward posture is susceptible to pain by causing injuries in muscles which are under pressure of repetitive work{1}.

It refers to the performance of the locomotion system: In dentistry, improper body posture along with the factors such as prolonged work in a static position with no rest periods, use of excessive force and vibrating tools, repetitive work and the need for special precision in a

small working field puts dentists at very high risk of developing musculoskeletal disorders{7}. Dental practice is a high risk profession and every year a large number of dentists are at high risk of job related musculoskeletal disorders. So many different factors that contribute to such disorders are hereditary stress, unsuitable posture during work, and lack of regular exercises{5}. Chronic neck pain has become a severe health problem and socioeconomic pain. It is the leading cause of physical disability. Dentists are at higher risk of musculoskeletal pain and disorders as they are vulnerable to mal-posture {2}. Dentists are more prone to develop cervical pain, shoulder pain and wrist pain because of their working positions along with forceful and repetitive movements during clinical procedure {2}. This study was conducted to assess the complaints of cervical pain among dentists and find the prevalence of cervical pain.

MATERIALS AND METHODS

A cross sectional survey study was conducted on 47 dentists working in different sectors such as government and private hospitals and clinics. Out of 47 participants 32 were male and 15 were females with

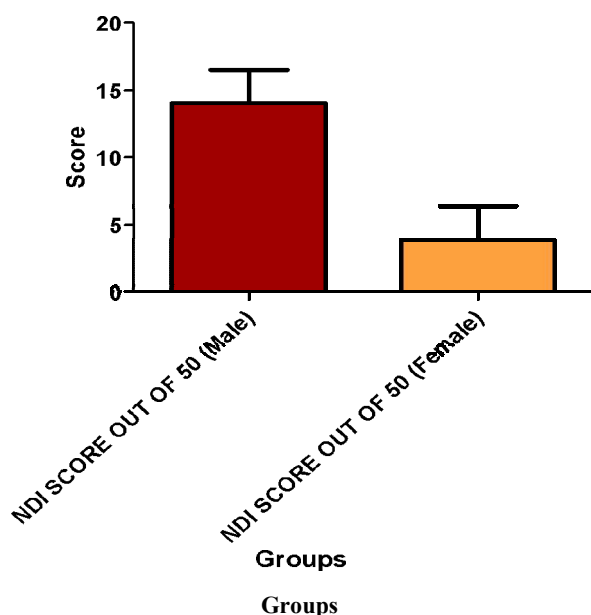
5 years of experience. Dentists with a history of major trauma, major surgery, and other co-morbidities were excluded. The data was collected by using Neck Disability index (NDI). This questionnaire has been widely used and accepted in evaluating the level of disability in patients with cervical pain. NDI is the most reliable and valid questionnaire which is used to measure cervical disability. The data was analysed using graph pad prism version 5.

RESULTS

The study was undertaken to assess the prevalence of cervical pain and its impact on activities of daily living (ADL's) among dental professionals out of total 47 participants, 32 were males and 15 were females with an age of group ranging from 30 to 50 years old with minimum five years of experience. This table shown how much activities are affected due to their pain.

Table 1.

	NDI SCORE OUT OF 50 (Male)	NDI SCORE OUT OF 50 (Female)
Number of values	32	15
Minimum	10.00	0.0
25% Percentile	12.25	0.0
Median	14.00	5.000
75% Percentile	15.75	6.000
Maximum	19.00	7.000
Mean	14.06	3.867
Std. Deviation	2.462	2.532
Std. Error	0.4352	0.6537

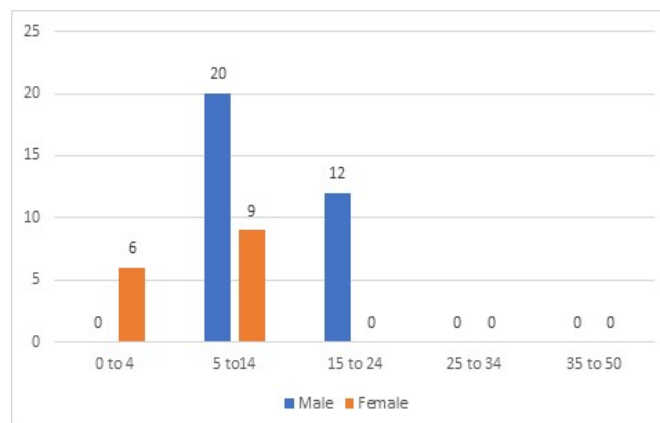


Mean with standard deviation of the NDI score calculated among the male and female population showcased with statistical outputs as per every section in table and graph.

NDI score (points)	Male	Female	Interpretation Level of disability)
0 to 4	0 (0.00%)	6 (40%)	None
5 to14	20 (62.5%)	9 (60%)	Mild
15 to 24	12 (37.5%)	0 (%)	Moderate
25 to 34	0 (0%)	0 (%)	Severe
35 to 50	0 (0%)	0 (%)	Complete

As per frequency distribution study total sample size in the study set as 47 where 32 are male and 15 are females. As per statistical analysis 0 (0.00%) male found to be having no disability, while 6 (40%) females found to be with no disability. In case of mild disability 20 (62.5)% male were recorded while 9 (60)% were recorded in this

category. In the moderate group of male 12(37.5%) found to be positive while in the female group no such evidence was recorded thereafter. Groups of severe and complete both male and female groups have not been recorded as in fig and table.



DISCUSSION

This study examined the prevalence of cervical pain and its impact on activity of daily living (ADL's) among dental professionals working in Nagpur district, Maharashtra. The number of patients with musculoskeletal pain of the upper limb in dentists are growing. Due to the increased prevalence of musculoskeletal pain in dentists, the present research studies the prevalence and risk factors of upper limb musculoskeletal disorders in dentists. The study was undertaken to assess the prevalence of cervical pain and its impact on activity of daily living (ADL's) among dental professionals. The sample, composed of 47 participants, ranged from 30 to 50 years old with minimum five years of experience. The neck disability index (NDI) is used to find the prevalence of cervical pain among dental professionals. Our study revealed that as per frequency distribution, the total sample size in the study was 47 where 32 were males and 15 were females. In this study there were 60% male and 40% female population and the prevalence of cervical pain was more common in male population. As per statistical analysis 0(0.00%) male found to be having no disability, while 6(40%) females found to be with no disability. In case of mild disability 20 (62.5%) male were recorded while 9 (60%) females were recorded in this category. In the moderate group male 12(37.5%) found to be positive while in the female group no such evidence was recorded thereafter. Groups of severe and complete both male and female groups have not been recorded. In general, the participants of study were healthy and were not victims of any chronic diseases, hence. It shows no correlation between cervical pain and medical history. The intensity of pain and level of discomfort varied according to the working duration of the dentist and increased with the increasing age of the dentists. The problem of cervical pain in dentists arises due to improper furniture in working stations and to overcome this dentists are working with stress that ultimately affects their daily life and recreation as well. The finding of our study revealed that cervical pain is more common among male dental practitioners than female dental practitioners.

CONCLUSION

This study reveals that the dentists of Nagpur Maharashtra suffer from mild to moderate cervical pain. Cervical pain is more common among male dental practitioners than the female practitioners. Most of the dentists of Nagpur city, suffering from cervical pain have a history of persistent work in faulty posture, repetitive movements of hand and no rest periods between their working hours and causing cervical pain. It means that less rest periods and faulty posture are most contributory factors in developing cervical pain among the dentist community.

Ethical Policy and institutional review board statement: The study was approved by the Institutional Review Board.

Declaration of patient consent: The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Data availability statement: Data is available based upon request from Dr. Deoashish Gupta.

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Conflict of Interest: There is no conflict of interest.

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