



Prevalence of Symptoms of Temporomandibular Disorders among Dental Patients- A KAP Survey among Dental Practitioners

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ABSTRACT

Temporomandibular disorders (TMD) are a group of conditions affecting the temporomandibular joint, the muscles of mastication and its associated structures. Temporomandibular disorders are multifactorial in nature with associated dental, psychological and medical conditions. The most commonly associated factors are emotional tension, postural deviation, masticatory muscular dysfunction, occlusal interferences, teeth loss, internal and external changes in TMJ. To determine the Prevalence of symptoms of Temporomandibular Disorders among Dental Patients - A KAP survey among dental practitioners. A questionnaire with eight questions regarding the prevalence of symptoms of temporomandibular disorders among dental patients in their dental practice was prepared and sent to dental practitioners. The data was analysed statistically for significance and correlations. Statistical analysis was performed using the SPSS software. The dental practitioners reported among their patients 12 % had pain very often during jaw opening, 37 % had headaches frequently, 15 % accounting for habit of clenching, 19% with difficulty in mouth opening and 9 % pain during mastication. The dental practitioners who participated in the survey found that most of the dental patients had one or more symptoms of TMD. Among these symptoms, the most commonly occurring are the headaches followed by pain on jaw opening and difficulty in mouth opening. On assessing the results of the survey, the dental practitioners had observed that most of the patients with dental issues were unaware of having TMJ disorders and adverse effects they could experience in future if left untreated.

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INTRODUCTION

Temporomandibular joint disorders (TMD) is a term used to define a group of pain disorders in the orofacial structures in the temporomandibular joint (TMJ) region, limiting mandibular movements, presence of clicking sounds in the TMJ and fatigue of the masticatory muscles. [1] The etiology of TMD is multifactorial including factors such as emotional stress, occlusal interferences, malpositioning or loss of teeth, change in postures, dysfunctions of the masticatory musculature, neoplastic growth, traumatic injury, immune mediated systemic diseases, tooth clenching habits, bruxing or a

combination of such factors. [2] Psychological factors are known to play a major role in the etiology and persistence of TMD. In particular people who experience high stress levels and anxiety have been reported with symptoms of TMD. [3] TMD affects the articulation of the condyle with the glenoid fossa, the masticatory muscles and the occlusion. A thorough analysis of the above mentioned factors should be done to confirm the diagnosis as TMD. [4,22] To achieve a certain degree of uniformity in categorizing TMD, the Research Diagnostic Criteria for Temporomandibular Disorders (RDC/TMD) have proposed the following definition and diagnostic criteria. By definition it

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means the group of conditions affecting the temporomandibular joint, the masticatory musculature or both. [5] The signs and symptoms include pain in the masticatory musculature and/or joint which can radiate and refer, locking of the jaw, noises like clicking and crepitus during joint movement, headache, tightness around the face in the morning and referred pain to the ear. [3,6,21] Also traumatic occlusion, wear of dentition due to para functional habits like bruxism, anxiety and stress have been experienced by the patients with TMD. [7] Epidemiological studies have estimated around 50-75% of the population exhibit few signs of TMD. Many a times these symptoms would be subclinical and the patient might not be trying to relate this to the underlying jaw problem. [6] In 15-20% these signs turn into symptoms for which the patients will seek treatment. [7] So the identification of the signs of a possible TMD is essential to diagnose TMD. The

purpose of the survey was to determine the prevalence of symptoms of TMD among dental patients in their dental practice by various dental practitioners.

MATERIALS AND METHODS

A questionnaire consisting of 8 questions were prepared to assess the prevalence of symptoms of temporomandibular disorders among the dental patients. This questionnaire was sent to 100 dental practitioners regardless of their age, sex and experience. The questionnaire were sent through google forms. (Figure 1) Clear instructions were given in the questionnaire form about the aim of this survey and answering the questions. The survey was non blinded. Name, mail id and designation of the dental practitioners were kept confidential.

KNOWLEDGE AND PREVALENCE OF TMD AND ITS ASSOCIATED SYMPTOMS

1. Name of the practitioner
2. Email id of the practitioner
3. Designation of the practitioner
 - a. Undergraduate
 - b. Intern
 - c. Postgraduate
 - d. Practitioner
4. How often do patients complain of pain during opening of jaw?
 - a. Very often
 - b. Often
 - c. Sometimes
5. Is frequent headache a common complaint of patients you suspect have TMD?
 - a. Very often
 - b. Often
 - c. Sometimes
6. How prevalent is the habit of grinding or clenching among your patients?
 - a. Very often
 - b. Often
 - c. Sometimes
7. Do patients frequently complain of difficulty in mouth opening?
 - a. Yes
 - b. No
 - c. Sometimes
8. How often do your patients have pain during mastication?
 - a. Very often
 - b. Often
 - c. Sometimes

Figure 1: Questionnaire for Prevalence of symptoms of Temporomandibular Disorders among Dental Patients in their dental practice - A KAP survey among dental practitioners

Results

A total of 88 dental practitioners participated in this study. Among which 50% were postgraduates of

various specialties, 23% being practitioners, 18% interns and remaining 9 % were undergraduate students as shown in figure 2.

DESIGNATION

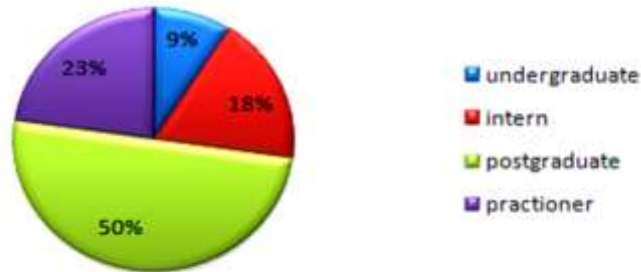


Figure 2: Designation of the dental practitioners who participated in this survey

On assessing the frequency of pain during jaw opening the dental practitioners reported that 72 % of patients had pain at few instances during jaw

opening, 16 % complained of pain frequently during jaw opening, while the remaining 12 % had pain very often during jaw opening as shown in figure 3.

FREQUENCY OF PAIN DURING JAW OPENING

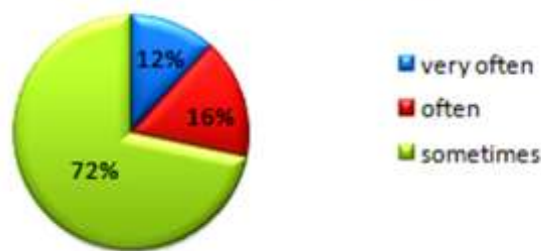


Figure 3: Distribution of frequency of pain during jaw opening

On evaluating the prevalence of headache associated with TMD the dental practitioners found that 46% of patients had head ache less frequently

and with 37% patients having very frequent headaches and 17 % did not have any symptom of headache as shown in figure 4.

IS FREQUENT HEADACHE COMMONLY SEEN IN TMD

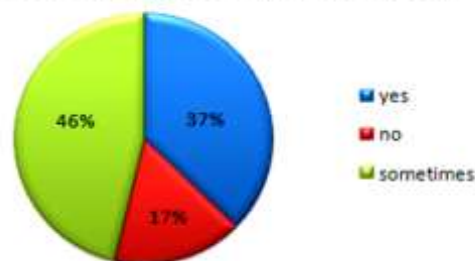


Figure 4: Distribution of headaches in patients with temporomandibular joint disorders

With regard to habit of clenching of teeth, the dental practitioners reported that 58% of patients had been clenching their teeth often while 15 % of patients

frequently clenched their teeth with remaining 27 % patients had this habit of clenching less frequently as shown in figure 5.

PREVELANCE OF CLENCHING IN TMD PATIENTS

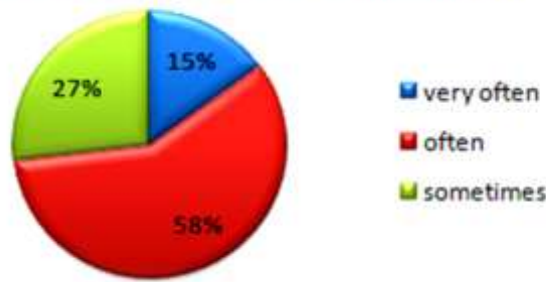


Figure 5: Distribution of habit of clenching in TMD patients

The dental practioners reported that patients with TMD reported with difficulty in mouth opening. 42% of patients experienced pain and discomfort occasionally during mouth opening while 19 %

experienced extreme difficulty during mouth opening and the remaining 39% had no difficulty and discomfort opening their mouth as shown in figure 6.

FREQUENT COMPLAIN OF DIFFICULTY IN MOUTH OPENING



Figure 6: Frequency of complain of difficulty in mouth opening in TMD

The dental practitioners also observed that patients also experienced pain during mastication. They reported that 53 % of patients had complained of pain occasionally during mastication, 38 % patients

experienced pain during mastication often and the remaining 9 % experienced pain very often during mastication as shown in figure 7.

FREQUENCY OF PAIN DURING MASTICATION

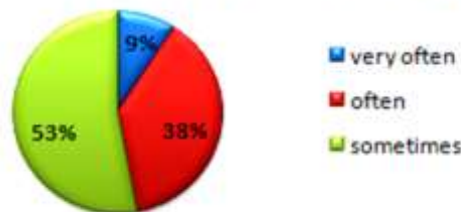


Figure 7: Distribution of frequent pain during mastication

DISCUSSION

TMJ depends on its harmonious relationship with its associated structures such as the mandibular condyles, meniscus, glenoid fossa, ligaments and muscles of mastication.^[7,8] The TMJ functions normally until it is disturbed by external factors such as mechanical, psychological, occupational and habits.^[9] Our human body has the ability to repair

these aggressions periodically within physiological limits, but if the aggression rate increases than the repair rates, signs and symptoms of TMD begin to appear.^[10]

The etiology of TMDs has been associated to several factors such as immune mediated systemic disease, neoplasm, malocclusion, and loss of teeth, extrinsic and intrinsic changes of TMJ structure. ^[11] Prosthodontic rehabilitation, orthodontic

treatment, orthognathic surgery and mandibular fractures are also associated in worsening of TMD. Mechanical stress, altered jaw position and mechanical loading in response to the above mentioned treatments are capable of inducing morphological changes in the TMJ.

Studies by Fonseca et al, revealed that around 60-75% of the subjects will manifest one TMD sign and 35% TMD symptom, and TMD signs are present in 50-75% of the population at some point in their lifetime, whereas 35% exhibit mild symptoms. [7,8,9] The common difficulty faced by investigators of TMDs was the identification of etiological factors. To compare and obtain results from various clinical studies for the severity of TMD, there was a need for a reliable and simple questionnaire. The anamnestic and clinical indexes proposed by Helkimo in 1974 which was obtained from clinical observations were widely used. [12]

Fonseca et al in 1992 modified Helkimo's indices and developed his anamnestic questionnaire classifying TMD as light, moderate or severe or non TMD. The advantages of Fonseca's questionnaire includes self-administration, short time of application, low cost and less influence from the examiner leading to less variability in the measures. [13,14] This was similar to the studies performed by Dekon et al and Pedroni et al using the Fonseca questionnaire in a sample of Brazilian college students.

The symptoms of TMD prevalence among dental patients were observed by the dental practioners. On assessing the frequency of pain during jaw opening they found that 72 % of patients had pain at few instances during jaw opening, 16 % complained of pain frequently during jaw opening, while the remaining 12 % had pain very often during jaw opening. In a telephone survey of adult residents of Toronto, Ontario, 9.5% of the population reported experiencing pain. Prevalence rates of pain were slightly higher in those under age 45 years (8.3%) than in those 45 years of age and older (7.2%). An American study demonstrated that 8% of men and 15% of women reported such pain. Studies carried out by Bora and Soukaina demonstrated that pain in the ears was the most common symptom. [14] On evaluating the prevalence of headache associated with TMD the dental practitioners found that, 46% of patients head ache was less frequently associated and with 37% patients having very frequent headaches and 17 % did not have any symptom of headache. With regard to habit of clenching of teeth, 58% of patients had been clenching their teeth often while 15 % of patients frequently clenched their teeth with remaining 27 % patients had this habit of clenching less frequently. In a study by Koidis et al, he found a significant association between clenching and TMD, which reported that subjects

with any degree of clenching had a higher rate of TMD than those who showed no degree of clenching. [17] The dental practitioners observed that patients with TMD also reported with difficulty in mouth opening. 42% of patients experienced pain and discomfort occasionally during mouth opening while 19 % experienced extreme difficulty during mouth opening and the remaining 39% had no difficulty and discomfort opening their mouth. The dental practitioners also found out that patients also experienced pain during mastication. 53 % of patients had pain occasionally during mastication and the remaining 9 % experienced pain very often during mastication. These findings are of clinical importance because it will be very helpful in early diagnosis and management of these TMDs. [19] Trauma of the neck or head was also significantly related to joint locking and joint sounds. [20]

CONCLUSION

The dental practitioners who participated in the survey found that most of the dental patients had one or more symptoms of TMD. Among these symptoms, the most commonly occurring are the headaches followed by pain on jaw opening and difficulty in mouth opening. On assessing the results of the survey, the dental practioners had observed that most of the patients with dental issues were unaware of having TMJ disorders and adverse effects they could experience in future if left untreated. Further CME and CDE programmes have to be conducted for creating an awareness and educating the patients about the ill effects of TMD.

Conflict of Interest

The authors declare there is no conflict of interest.

Source of Funding

Self.

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