

Knowledge, Awareness and Attitude of Dental Practitioners Towards Various Treatment Modalities Prescribed For Temporomandibular Joint Disorder In Central India: A Questionnaire Based Study

Dr.Vaibhav Shrivastava¹,Dr.Naveen S.Yadav²,Dr.Harsh Mahajan³,Dr.Sumit Khare⁴, Dr.PujaHajari⁵,Dr.Nimmy Anto⁶

¹Post Graduate Student,Department of Prosthodontics and Crown & Bridge,People's Dental Academy,²Professor & Head of Department of Prosthodontics and Crown & Bridge,People's Dental Academy,³Professor Department of Prosthodontics and Crown & Bridge,⁴Professor Department of Prosthodontics and Crown & Bridge,⁵Reader Department of Prosthodontics and Crown & Bridge,⁶Senior Lecturer Department of Prosthodontics and Crown & Bridge

Abstract:

AIMS:Temporomandibular joint disorders(TMD) is a symptom complex rather than a single condition, and it is supposed to be multifactorial in nature. Although there are many treatments available, although there is a general lack of evidence for any treatment in TMD, and no widely accepted treatment protocol. Hence this present study was carried out to assess the knowledge, awareness and attitude of dental practitioners towards various treatment modalities prescribed for Temporomandibular joint disorder

MATERIALS AND METHODOLOGY: An electronic survey was carried out where in all the the participants were sent mail giving description about the study as well as the survey link. 10 closed ended questions were asked in the questionnaire. Then the survey data was then analysed using Statistical packages for Social sciences (SPSS) version 23.0 (SPSS Inc., Chicago, IL, USA).

RESULTS:100 participants responded to the questionnaire. We found that 90 % of dentist prescribed treatment for Temporomandibular joint disorders. TMJ imaging is useful in diagnosis of TMJ disorders in which Orthopantomogram was most frequently prescribed. Occlusal interference (46%)was identified as the most common etiology of TMD. The preferred line of treatment of choice of 46% of practitioners is Occlusal correction +NSAIDS and Muscle relaxant.

CONCLUSION:According to this survey, a large percentage of the dentists that completed the survey were aware of the Temporomandibular joint disorder symptoms, diagnosis and treatment modalities.Finding the right treatment can be difficult as the disorder itself is an umbrella of complex conditions. Future studies should investigate about multidisciplinary collaborations between dentists and other disciplines.

Key Words: Temporomandibular joint, Treatment, Masticatory muscle

Date of Submission: 16-06-2020

Date of Acceptance: 02-07-2020

I. Introduction

Temporomandibular joint (TMJ) disorders are the most common disorder of maxillofacial region. Temporomandibular joint and muscle disorders, commonly called "TMD," are a set of conditions that cause pain and dysfunction in the jaw joints and the muscles that control jaw movements which includes pain in masticatory muscles,Temporomandibularjoint,headache,disturbances in jaw movement and sound in joints while opening and closing. The causes of these diseases/symptoms are numerous that include trauma,iatrogenic,occlusal and psychological disorder.¹⁻⁶

Broadly TMJ disorder have been classify into two categories: articular and non-articular disorder. Articular disorders can be further sub divided into inflammatory and non-inflammatory osteopathies. Inflammatory disorders include rheumatoid arthritis (RA),ankylosing spondylitis, psoriatic arthritis, gout, and infectious arthritis.Noninflammatory articular disk disorders include osteoarthritis, joint damage from prior trauma or surgery, or other cartilage or bone disorders.Most of the nonarticular disorders present as myofascial pain in muscles of mastication. More than 50% of TMD is myofascial pain. Emotional stress predisposes to clenching and bruxism, which contributes to myofascial pain.Symptoms include chronic pain in the masticatory muscles, radiating pain to the ears, neck, and head region.⁷⁻⁸

Due to various symptoms and clinical feature of TMJ disorder, it is difficult to diagnose the patients owing to lack of awareness and knowledge regarding TMJ disorders. As a general dental practitioner it is important to clinically diagnose the patient with TMJ disorder and should have basic knowledge of diagnosis and treatment protocol.

In the present study we did survey on awareness of various treatment modalities prescribed by dental practitioner for TMJ disorder in Bhopal, Madhya Pradesh

II. Materials Method

1. Study design

The study design is cross sectional descriptive in nature which was finalized after getting prior approval from institutional review board of Peoples Dental Academy.

2. Participants

The study was carried out among dental practitioners from Bhopal city, Madhya Pradesh. Electronic survey was carried out. Dentist were contacted by an email which included objective of study and survey link. The dentists were informed that no identifiable information will be published and participation in the survey is voluntary.

3. Questionnaire

Questionnaire was created under the expert panel of institution and survey questions were revised by 2 dentists to gather feedback for any implementation in survey. Feedback was considered and few changes were implemented. 10 questions were included in the study. All the questions were close ended. The online survey took only 5-10 min to complete.

4. Data analysis

The survey data was then analysed using Statistical packages for Social sciences (SPSS) version 23.0 (SPSS Inc., Chicago, IL, USA). Descriptive analysis was calculated to analyse the responses. Data was represented as total number of dentist (n) and frequency (%).

III. Result

From 150 email sent, a total of 100 dentist completed the survey. The responses given by the dentists are shown (Table 1). All the questions were close ended, responses to 7 questions have been shown in table whereas for other 3 questions, response has been depicted in figures.

Questions	Frequency (N=100)	
	Yes	No
1. Do you prescribe any treatment modalities for TMJ disorders?	90% (90)	10% (10)
2. Do you think in diagnosis of TMJ disorders TMJ imaging is useful?	92% (92)	08% (08)
3. Do you think examination of Masticatory muscle is important part of TMJ disorders diagnosis?	97% (97)	03% (03)
4. Does clicking sound of TMJ occurs due to disc derangement?	70% (70)	30% (30)
5. Do you Prescribe NSAIDS and Muscle relaxant in TMJ disorders?	81% (81)	19% (19)
6. Do you think Occlusal Splint are must for treating TMJ disorders?	75% (75)	25% (25)
7. Do you Refer Patient to TMJ specialist?	94% (94)	06% (06)

TABLE 1: PARTICIPANT RESPONSES

90 % of dentist prescribe treatment for temporomandibular joint disorders. According to 92% of respondents, TMJ imaging is useful in diagnosis of TMJ disorders. 46% of dentist considered Occlusal interference as the most common etiology of TMD, parafunctional habits (23%), trauma (15%) and stress (16%) being other causes of TMD. (Figure 1)

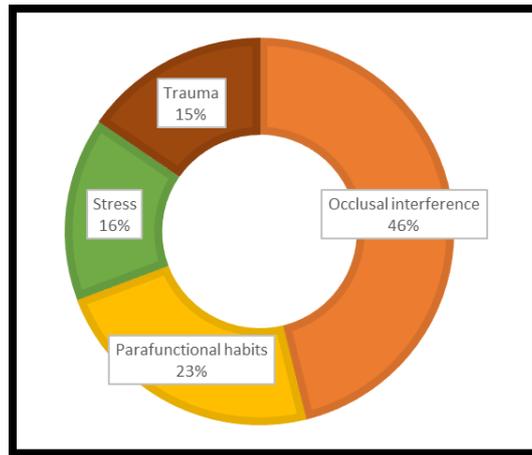


FIGURE 1: MOST COMMON CAUSE OF TMDs

According to 97% dentist,examination of masticatory muscle is important for clinical diagnosis of TMD and 70 % dentist feel that clicking sound of TMJ is due to disc derangement.71% dentist prescribed Orthopantomogram (OPG), 19% CT scan, 5% MRI and Scintigraphy respectively.(Figure 2)

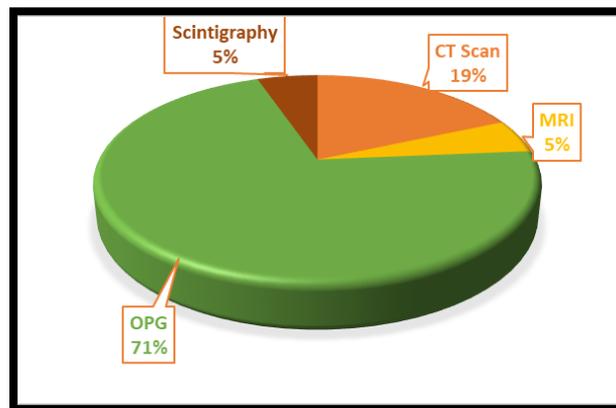


FIGURE 2: IMAGING MODALITIES FOR TMDs

Around 81% dentist prescribed non-steroidal anti- inflammatory drugs (NSAID) and muscle relaxant for TMJ disorders. 74.4% of the respondents considered Occlusal splint are must to treat TMDs. The preferred line of treatment of choice of 46% of practitioners is Occlusal correction +NSAIDS and Muscle relaxant, 20% dentist considered Occlusal correction +splint, NSAIDS+muscle relaxant by(16%) and18 % dentists considered only occlusion correction asa part of treatment of TMDs. (Figure 3)

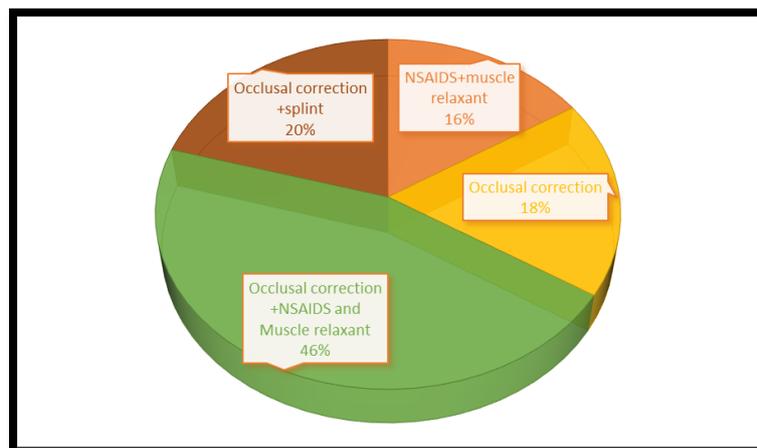


FIGURE 3: TREATMENT CHOICE FOR TMDs

We have also found that 94 % respondents refer patients suffering from Temporomandibular joint disorder symptoms to the specialist.

IV. Discussion

TMDs are the broad group of clinical complex symptoms involving masticatory musculature, Temporomandibular joint and associated bony and soft tissue structure. The symptoms usually includes decreased mandibular range of motion, pain in the muscles of mastication, Temporomandibular joint (TMJ) pain, , generalized myofascial pain, headache and deviation of the jaw opening associated joint noise with function⁹.

Lipton et al¹⁰ showed that about 6% to 12% of the population experienced clinical symptoms of TMD. Etiology of TMDs are multifactorial which may be related to various medical and dental condition such as emotional tension, stress, Occlusal interference, masticatory muscle dysfunction, external and internal changes in TMJ structure.¹¹

The identification of sign and symptoms of TMD is a key to early diagnosis and for adequate treatment of TMD. Diagnosis of TMD requires a detailed history and physical examination. Pain and limited range of motion are accepted symptoms of TMJ dysfunction.

As a supplementary diagnostic tools, radiographic studies can also be done. CT scan and panoramic radiograph (OPG) was found to provide detailed imaging of the joints bony structure but MRI is the modality of choice for disk position and morphology as it also shows degenerative bony changes.¹² In the present study 92% dentist were aware about the TMJ imaging for diagnosis of TMD for which they prescribed OPG (71%), CBCT(19%), MRI(5%) and Scintigraphy(5%) but in a recent study by Talmaceanu et al¹³ suggested that CT and MRI are the most used imaging techniques in which CT is the most efficient modality for examination as it helps in detecting the osseous changes, whereas MRI is the gold standard for the articular disc examination.

Alan et al¹⁴ conducted a study and found that parafunctional behaviors, especially those that increase muscle tension, and emotional states due to stress are predictors of jaw pain levels in patients of TMD. In the present study we observed that 46 % dentist believed that the major etiologic factor of TMD is occlusal interference, parafunctional habit (23%), stress (16%), trauma (15%), these results may be due to the lack of awareness about TMD among general dental practitioners.

Conti et al.¹⁵ in 2003 also found TMJ sounds followed by headache to be the most commonly reported symptoms in TMD. In our present study we also found that 70.5% dentist were aware about the clicking sound of TMJ due to disk derangement as a possible cause of TMD. Treatment modalities of TMD is broadly classified into 3 categories namely noninvasive, minimally invasive and invasive management. Specific treatment plan can vary according to the specific diagnosis and severity of TMJ disorder. It is a multidisciplinary approach involving multiple specialist to fully address the problem from all aspects. The least invasive and most reversible treatments should be tried first. Non- invasive treatment includes Occlusal splint, pharmacotherapy. Minimally invasive treatment includes intra-articular injections, arthrocentesis, arthroscopy and invasive treatment includes arthroplasty as well as total joint replacement.¹² In the present study we found that 94 % dentist refer the patient to specialist so that best available care can be given to patient.

V. Conclusion

According to this survey, a large percentage of the dentists that completed the survey were aware of the temporomandibular joint disorder symptoms, diagnosis and treatment modalities. Because there is no only certified specialty for TMJ disorders in either dentistry or medicine, finding the right treatment can be difficult as the disorder itself is an umbrella of complex conditions. Future studies should investigate if multidisciplinary collaborations between dentists and other disciplines are increasing to analyse if TMD patient treatment are benefitted from those collaborations. The challenges posed by TMJ disorders span the research spectrum, from causes to diagnosis through treatment and prevention.

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Dr.Vaibhav Shrivastava, et. al. "Knowledge, Awareness and Attitude of Dental Practitioners Towards Various Treatment Modalities Prescribed For Temporomandibular Joint Disorder In Central India: A Questionnaire Based Study." *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*, 19(6), 2020, pp. 14-18.