

Temporomandibular disorders - Knowledge, Attitude and practice among General Dental Practitioners in New Delhi NCR, India

Abstract

Aims: Temporomandibular disorders (TMD) account for the most common orofacial pain which arise from the musculoskeletal origin. The aim of the present study was to compare the knowledge of General Dental Practitioners (GDP) on the basis of clinical experience regarding TMD in New Delhi, National Capital Region (NCR), India in 2014.

Materials and Methods: A questionnaire, containing 10 questions related to the etiology, signs and symptoms, diagnosis and treatment of TMD, was given to 100 randomly selected general dental practitioners had clinical experience of 0-5 years and had clinical experience of more than 5 years in New Delhi, National Capital Region (NCR), India in 2014. **Results:** 100 GDP were randomly selected and then grouped into A and B groups, where group A, 58 GDP had experience of 0-5 years and group B, 42 practitioners had experience of more than 5 years of clinical practice. There were statistically significant differences in 2 questions out of 10 questions between general dental practitioner's experience of 0-5 years and practitioner's experience of more than 5 years of clinical practice. **Conclusion:** There is a need to develop and strengthen undergraduate dental course curriculum and continuous education programs in TMD and orofacial pain for General Dental Practitioners.

Key Words

Attitude; general dental practitioners; knowledge; practice, temporomandibular disorders; temporomandibular Joint

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INTRODUCTION

Temporomandibular disorder (TMD) is a complex, multifaceted disorder characterized by pain and tenderness in the temporomandibular joints, muscles of mastication and adjacent soft tissues. Generally, TMD accounts for the most common orofacial pain arise from musculoskeletal origin.^[1] Temporomandibular joint (TMJ) connects the mandible or the lower jaw to the skull and regulates the movement of the jaw. It is a bicondylar joint in which the condyles, located at the two ends of the mandible, function at the same time. The TMJ is one of the most complex as well as most used joint in a human body. The important functions of the TMJ which stabilizes the mandible therapy

facilitating the mastication and speech.^[2] It is suspected that 50% to 75% of the general population has experienced unilateral temporomandibular joint dysfunction on a minimum of one occasion and that at least 33% have reported a minimum of one continuing persistent symptom.^[3] Signs and symptoms of temporomandibular disorders (TMDs) may include pain, impaired jaw function, malocclusion, deviation or deflection, limited range of motion, joint noise, and locking. Headache, tinnitus, visual changes, and other neurologic complaints may also accompany TMDs. Because of many etiologic factors, the diagnosis and treatment of patients with TMDs is complex.^[4] Investigations for TMD are mainly required to

Subjects	GDP (0-5 Years)		GDP (>5 Years)		Chi- square	p-value
	Y	N	Y	N		
1. Do you frequently get TMD patients in your practice?	14 (24%)	44 (76%)	16 (38%)	26 (62%)	1.130	0.288 (NS)
2. Do you confidently diagnose TMD cases in your day today practice?	26 (45%)	32 (55%)	24 (57%)	18 (43%)	0.739	0.390 (NS)
3. Do you feel clicking sound of TMJ is a abnormal sign?	38 (65%)	20 (35%)	24 (57%)	18 (43%)	0.363	0.547 (NS)
4. Do you advice conventional (OPG) radiograph to the TMD patients?	42 (72%)	16 (28%)	28 (67%)	14 (33%)	0.192	0.662 (NS)
5. Do you prescribe any non pharmacological treatment (Self care, Physiotherapy) for TMD patient?	48 (83%)	10 (17%)	40 (95%)	2 (5%)	1.796	0.180 (NS)
6. Do you prescribe any pharmacological treatment for TMD patient?	34 (58%)	24 (42%)	36 (86%)	6 (14%)	4.258	0.039 (S)
7. Does the TMD patients reports back to you?	26 (45%)	32 (55%)	34 (81%)	8 (19%)	6.623	0.010 (S)
8. In case of reduce mouth opening do you directly advice surgical treatment to the TMD patients?	4 (7%)	54 (93%)	0 (0%)	42 (100%)	1.509	0.219 (NS)
9. Do you directly refer the TMD cases to the TMJ specialist/ oral physician without any treatment?	12 (21%)	46 (79%)	4 (10%)	38 (90%)	1.130	0.288 (NS)
10. Do you think an ENT doctor is the right person for TMD problem?	8 (14%)	50 (86%)	4 (10%)	38 (90%)	0.210	0.647 (NS)

Y= Yes, N= No, NS= Non – significant, S= Significant

eliminate the possibility of other abnormalities that may mimic temporomandibular disorder symptoms in addition to the definitive diagnosis. Despite the limitations, plain radiographs of the temporomandibular joint such as high level orthopantomograms and transcranial projections are the useful ways of visualising any gross pathological, degenerative, or traumatic changes in the bony component of the temporomandibular joint complex. In recent years, magnetic resonance imaging has been used increasingly to investigate temporomandibular disorders, in particular, internal derangements of the joint. Many other investigations such as computed tomography and arthroscopy have been also advocated for TMD.^[5] The diagnosis of orofacial pain can be quite difficult and the diagnosis and treatment of this disorder is still a challenge in the dental field. Across India and most countries, dealing TMD as a part of the training programme is mostly limited for postgraduate students in schools of dentistry. As majority of patients initially refer to General Dental Practitioners (GDP), lack of proper knowledge, awareness towards TMJ & TMD's, not only leads to misdiagnosis but also lead to wrong treatment or no treatment therapy worsening the condition. Therefore, awareness of dentist's knowledge

regarding the diagnosis and treatment of TMD is very important.^[6] In other countries, several studies have evaluated the knowledge of general dental practitioners in relation to the diagnosis and treatment of TMD, but there are no sufficient similar studies in India. The aim of the present study was to compare the knowledge and attitudes of general dental practitioners (GDP) on the basis of clinical experience regarding TMD in National Capital Region (NCR), India in 2014.

MATERIAL AND METHODS

This cross-sectional study was designed to include General Dental Practitioners (GDP) practicing in dental clinics in New Delhi National Capital Region (NCR), India in which 100 GDP were selected randomly. A questionnaire was designed to enquire and assess whether the GDP come across the TMD patients and their attitude regarding TMD and management skills for the TMD. These GDP were then divided into 2 groups based on their clinical experience; Group A consisted of GDP with clinical experience of 0-5 years and Group B consisted of GDP with clinical experience of more than 5 years. Data was collected using non standardized customized questionnaires consisting of 10 questions about TMD and tabulated. The questionnaire consisted of 10 questions with the

option provided Yes and No. All the practitioners were informed about the aim of the study and assured of confidentiality of their answers. The subjects were asked to complete the survey within one week. In case of lost or incomplete questionnaires, a reminder was sent up to 3 times, and obtained completed questionnaires. After collecting the completed questionnaires, data were analyzed using SPSS 20. Descriptive statistics was carried out in the present study and Chi square test was used to compare proportions and p value <0.05 was considered to be significant.

RESULTS

100 GDP were randomly selected and then grouped into A and B groups, where group A, 58 GDP had experience of 0-5 years and group B, 42 practitioners had experience of more than 5 years of clinical practice. There were statistically significant differences in 2 questions out of 10 questions between general dental practitioner's experience of 0-5 years and practitioner's experience of more than 5 years of clinical practice (Table I). The two statistically significant questions were "Do you prescribe any pharmacological treatment for TMD patient" and "Does the TMD patients reports back to you". However, remaining 8 questions were found to be statistically non significant.

DISCUSSION

TMD is a general term including clinical problems which affect masticatory muscles, TMJ and adjacent structures. TMD is the most common non-dental pain affecting the maxillofacial region. The most common sign of TMD is pain in masticatory muscles, or preauricular region and on the TMJ which becomes severe when chewing or upon other mandibular movements. TMD patients have limitation and asymmetry in mandibular movements.^[7] Pain may radiate to the head, face, or eye. Sounds such as crunching, popping, or grinding are usually described. A few patients may describe a jaw that occasionally locks; the patient may have to wiggle the jaw to unlock it.^[8] Patients may complain from headache, earache and pain in the maxillofacial region. Masticatory muscle hypertrophy and an unusual facet of occlusal surfaces of the dentition due to excessive mandibular movements such as bruxism or grinding may be present. Management of TMJ disorders usually includes finding the cause or etiology. Parafunction and trauma are common causes of TMD, however Stress and mental problems are secondary aggravating factors.^[7] The results of the

present study showed that the knowledge, attitude and practice of general dental practitioners about TMDs who had clinical experience of 0-5 years was not similar to that of general dental practitioners who had clinical experience of more than 5 years in more than half of the questions. Most of the disagreements rate between the two groups was in management of TMDs. In the present study, less experience general dental practitioners got less TMD patients (24%) in clinical practice, whereas more than 5 years of clinical experience practitioners got more TMD patients (38%). It indicates that patients prefer and trust more on more clinically experienced practitioners for the treatment. However, the results were found to be statistically non-significant ($p>0.5$). According to present study, 0-5 years experienced practitioners diagnosed TMD patients (45%) less confidently in clinical practice, whereas more than 5 years of clinical experience practitioners diagnosed TMD patients (57%) with more confidence. However, the results were found to be statistically non significant ($p>0.5$) for this comparison in two groups. 45% TMD patients reported back to practitioners who had experience of 0-5 years and 81% TMD patients reported back to practitioners who had experience of more than 5 years. Also, the results were found to be statistically significant for this comparison in two groups. It shows, the more experienced dental practitioners has more command in handling these TMD patients which reinforces the fact that a good clinical experience plays a crucial role in the treatment of a TMD cases. According to Baharvand M *et al.*,^[1] the majority of the younger dentists do not have appropriate knowledge & acumen to diagnose TMD since they do not emphasize much on obtaining information and updating their knowledge regarding it. In present study, 65% practitioners who had less experience felt clicking sound of TMJ was a abnormal sign whereas 57% practitioners who had more than 5 years of clinical experience felt clicking sound of TMJ was a abnormal sign. However, the results were found to be statistically non-significant ($p>0.5$) for this comparison between the two groups. Tegelberg *et al.*,^[9] surveyed the experience and routine of attitudes and need for specialist resources in the treatment of TMD in children and adolescents among general dentists. They sent a questionnaire to 286 Public Dental Service dentists. It contained questions on demographic data, quality assurance, clinical experience and expertise, attitudes, and the

need for specialist resources. Eighty-seven percent (250) of dentists filled in the questionnaire. Good experience concerning diagnostics and therapy decision was reported by 25 - 50% of the dentists; 55% of the dentists had positive attitude toward the care of children and adolescents with TMD. A large need for specialist resources with the possibility for referrals or to consult was reported.^[9] It appears that the inability of general dental practitioners in managing TMD patients was related to their inadequate knowledge about this disorder. There is consensus regarding the inadequacy of undergraduate dental education in TMD and orofacial pain, which emphasizes the need to develop and strengthen the curriculum regarding the problem.^[9] According to present study, 72% practitioners who had experience of 0-5 years advice conventional (OPG) radiograph to the TMD patients, whereas 67% practitioners who had more than 5 years of clinical experience advice conventional (OPG) radiograph to the TMD patients. However, the results were found to be statistically non-significant ($p > 0.5$) in two group for this comparison. These results could be because practitioners who have more experience of clinical practices, give more importance to the clinical findings of the patients while giving diagnosis in TMD patients. According to Baharvand M *et al.*^[1] Furthermore, lack of encounter with TMD patients by dental students during their education has led to lack of practice and knowledge regarding the etiologic factors of TMDs. The same trend is present even during their practice when confronting a TMD case, where the dentist does not put enough effort into looking for the underlying cause and makes a hasty diagnosis on the sight of the first sign and symptom, leading to a treatment that only relieves the pain and discomfort in the least amount of time possible.^[1] For treatment, when asked from the GDP, mostly the practitioners of both the groups practitioners prescribed non pharmacological treatment (i.e. self care, physiotherapy) to the patient, but majority of the practitioners who had experience of more than 5 years prescribed (95%) and overtook the practitioners who had less experience (83%). However, the results were found to be statistically non significant for the comparison between two groups. Another treatment modality, when asked from the GDP regarding pharmacological treatment modality, majority of practitioners who had more experience of clinical practice prescribed more pharmacological treatment

(86%) in comparison with practitioners who had less experience of clinical practice (58%). Also, the results were found to be statistically significant for comparison of both the groups. Tegelberg *et al.*,^[10] in another study examined the knowledge of GDP about Temporomandibular disorders in children and adolescents. The overall response rate to the questionnaire was 87%. They reported a high degree of consensus in TMD knowledge among TMD specialists and a high degree of agreement in knowledge between GDP and TMD specialists. The highest number of significant intergroup differences was found in the treatment and prognosis. However, these findings are contrary to the results of our study where the GDP were grouped on the basis of their clinical experience. This could also be explained by the contributing facts that undergraduate curriculum are different in different countries.^[10] In case of reduced mouth opening, none of the practitioners (0%) who had experience of more than 5 years of clinical practice directly advice surgical treatment to the TMD patients in comparison who had experience of less than 5 years of clinical practice. When further asked from GDP, 90% practitioners who had experience of more than 5 years did not directly refer the TMD cases to the TMJ specialist/oral physician without any treatment in comparison with the practitioners who had less experience of clinical practice. However, the results were found to be statistically non significant for both the comparison in two groups. According to MH Steenks^[11] diagnosis and treatment of TMD are usually limited to simple cases for general dental practitioners. One of the therapeutic strategies in acute orofacial pain is referral to a specialist. Therefore, dental students have to learn the thorough examination, diagnosis and management of non-complex cases in dental schools. They must also learn to refer complicated cases with initial treatment prescribed to the TMDs patient.^[11] In response to the question whether ENT doctors were the right person for TMD problem, majority did not agree with the statement from both the groups. Also, the results were found to be statistically non significant.

CONCLUSION

The present study is first of its kind represented among Indian GDP and an attempt is made towards the knowledge, attitude and practice of TMDs. Although more experienced GDP have an overall advantage in diagnosing and treating the TMD patients in comparison with less experienced

practitioners in their clinical practice, more emphasis should be given to TMDs as a part of curriculum during training period. Furthermore our results suggest a regular upgrade of knowledge regarding TMD with the help of various Conferences / CDE programs, training on diagnosing and treating TMD patients and workshops as the need of hour for the less experienced general dental practitioners.

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