

Knowledge and Beliefs of General Dental Practitioners Regarding Temporomandibular Disorders in Sanandaj, Iran

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ABSTRACT

Statement of the Problem: In Iran and most countries temporomandibular disorders (TMDs) are part of the education curriculum of general dentistry. Most patients with these disorders are first referred to dentists. Therefore, awareness of general dentists' knowledge in this field is very important.

Purpose: The aim of this study was to evaluate knowledge and beliefs of general dental practitioners regarding temporomandibular disorders in Sanandaj, Iran.

Materials and Methods: A questionnaire, containing 20 questions about TMD (diagnosis and classification, treatment and prognosis, chronic pain and pain behavior) was given to 80 randomly selected general dental practitioners in Sanandaj as well as to 10 TMD experts (oral and maxillofacial surgeons and prosthodontists) in Hamadan.

Results: An overall response rate of 80% was achieved among the participants. The knowledge of general dental practitioners about TMD was similar to that of TMD experts in over half of the questions. Most of the agreements between the two groups were in the treatment domain and most disagreements were in chronic pain and pain behavior.

Conclusion: According to the results, there is a need to develop and strengthen undergraduate dental course curriculum and continuous education programs in TMD and orofacial pain.

Keywords: Dental questionnaire, knowledge, Temporomandibular Joint Disorders.

INTRODUCTION

Temporomandibular disorders (TMDs) have been the subject of considerable research for more than a century, but with a mass of data, etiologic nature of temporomandibular disorders is not clear yet. Most researchers now believe that the cause of TMD is multifactorial.⁽¹⁾ There are

many known causative agents for this disorder, including trauma, occlusion and parafunctional habits. Although recent findings have shown a decreased role for occlusal factors in TMD,⁽²⁾ occlusion is one of the main factors for TMD. That is why the diagnosis and treatment of this disorder is still a challenge in the dental field. In Iran and most countries, the problem of TMD is part of the training provided for students in general schools of dentistry. Epidemiological studies have shown that

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TMD signs and symptoms are common in adults of all ages, and often a similarly high prevalence of signs and symptoms is found in children.⁽⁵⁾

The majority of patients initially refer to general dental practitioners. Lack of diagnosis or misdiagnosis can lead to wrong treatment or no treatment, worsening the condition. Therefore, awareness of dentists' knowledge regarding the diagnosis and treatment of TMD is very important.

In other countries, several studies have evaluated the knowledge of general dental practitioners in relation to the diagnosis and treatment of TMD,^(6,7) but there are not sufficient similar studies in Iran.⁽⁸⁾ In this study the knowledge of general dental practitioners about diagnosis and treatment of TMD was evaluated in Sanandaj in 2009.

MATERIALS AND METHODS

This cross-sectional study was designed to include general dental practitioners practicing in dental clinics and private offices in Sanandaj, Iran. After obtaining a list of names and addresses from the Iranian Dental Association, 80 general dental practitioners were selected randomly. A questionnaire about TMD was chosen from the relevant references.^(4,7) The questionnaire consisted of three main sections: diagnosis and classification (7 questions), treatment and diagnosis (9 questions), and chronic pain and pain behavior (4 questions). At first, in order to determine questionnaire reliability, it was

handed in to 10 general dental practitioners who were asked to answer the questions. These questionnaires were collected the next day. About a week later, the questionnaires were sent to the same 10 dentists to be completed again. The calculated reliability of the questionnaire was acceptable ($r=90$). After the final revision of the questionnaire, it was handed in to general dental practitioners who were included in this study, by referring to their offices or clinics. All the practitioners were informed of the aim of the study and assured of confidentiality of their answers. The subjects were asked to complete the survey within one week. The questionnaires were also given to 10 TMD experts (oral and maxillofacial surgeons and prosthodontists) chosen from the academic staff at Hamadan University of Medical Sciences, Hamadan, Iran. Considering the fact that they are more involved in the management of patients with TMD compared to other dentists, if at least 60% of the experts agreed or disagreed with a question, their opinion was accepted as correct answer for that question, and the responses of general dental practitioners were compared with that. The questionnaires were collected after one week. In case of lost or incomplete questionnaires, a reminder was sent up to 3 times, and if such participants were not willing to cooperate, they were excluded from the study. After collecting the

completed questionnaires, data were analyzed using SPSS 15. Chi-squared test was used to compare the responses of

RESULTS

The overall response rate of participants was 80%. Sixteen general dental practitioners were excluded from the study. Of 64 dentists investigated 18 were female and 46 were male. By and large, general dental practitioners and TMD experts had agreement on 13 questions out of 20, and there was a significant difference between them in their responses to the remaining questions (Tables 1, 2 and 3). As shown in

general dental practitioners and TMD experts.

Table 1, in the diagnosis section, there were statistically significant differences in 3 questions out of 7 questions between general dental practitioners and TMD experts. In the treatment section (Table 2), there was a significant difference only in 1 question out of 9 questions, and in the chronic pain section (Table 3), there were statistically significant differences in 3 questions out of 4 questions.

Table 1: The percentages of agreement between knowledge of general dental practitioners and TMD experts in the diagnosis of temporomandibular disorders

Subjects	Experts' Opinion	Agreement between knowledge of GDPs and TMD Experts	P-value
1. TMJ radiography is very useful in the diagnosis of soft tissue, bone and joint disorders.	Agree (70%)	(36%)	0.04 (S)
2. Inflammation of the TMJ causes limitations in the mouth opening.	Agree (90%)	(91%)	0.95 (Ns)
3. Tenderness of masticatory muscles is the most common symptom of TMD.	Agree (90%)	(38%)	0.002 (S)
4. TMD is more common in children than in adults.	Agree (60%)	(72%)	0.44 (Ns)
5. Measurement of the mouth opening is a reliable method for the diagnosis of TMD.	Disagree (70%)	(39%)	0.05 (S)
6. The amount of mouth opening is 45 mm in vertical direction.	Disagree (60%)	(64%)	0.8 (Ns)
7. Internal derangement of the TMJ causes clicking.	Agree (80%)	(48%)	0.06 (NS)

Ns=Not significant

S=Significant

GDP=General Dental Practitioner

Table 2: The percentages of agreement between knowledge of general dental practitioners and TMD experts in treatment of temporomandibular disorders

Subjects	TMD Experts' opinion	Agreement between knowledge of GDPs and TMD Experts	P-value
8. The first treatment for TMD is occlusal splint.	Disagree (60%)	(36%)	0.14 (Ns)
9. Anti-inflammatory drugs are useful for joint pain	Agree (90%)	(48%)	0.014 (S)
10. Physical therapy is useful for treatment of TMD.	Agree (100%)	(80%)	0.11 (Ns)
11. Relaxation therapies are not helpful in the treatment of TMD.	Disagree (100%)	(73%)	0.63 (Ns)
12. Occlusal splints are useful in treating bruxism.	Agree (70%)	(69%)	0.93 (Ns)
13. All people who have clicking have to treat.	Disagree (60%)	(39%)	0.21 (Ns)
14. Informing and involving patients in treatment of TMJ problems is an appropriate approach.	Agree (90%)	(77%)	0.33 (Ns)
15. Occlusal splint is useful for the treatment of clicking.	Agree (80%)	(50%)	0.07 (Ns)
16. Orthodontic treatment can prevent the onset of TMD.	Disagree (70%)	(55%)	0.33 (Ns)

Ns=Not significant

S=Significant

GDP=General Dental Practitioner

Table 3: The percentages of agreement between knowledge of general dental practitioners and TMD experts about chronic pain of temporomandibular disorders

Subjects	TMD Experts' Opinion	Agreement between knowledge of GDP and TMD experts	P-value
17. Chronic pain is a physical, mental, behavioral and social disorder.	Agree (100%)	(63%)	0.018 (S)
18. In some patients, TMD is due to psychological causes.	Agree (100%)	(53%)	0.005 (S)
19. Depression is relatively common in patients with chronic TMD.	Agree (90%)	(61%)	0.07 (Ns)
20. Sleep disorders are common in patients with chronic pain.	Agree (100%)	(58%)	0.01 (S)

Ns=Not significant

S=Significant

GDP=General Dental Practitioner

DISCUSSION

The results of the present study showed that the knowledge of general dental

practitioners about TMD was similar to that of TMD experts in over half of the questions. Most of the agreements between

the two groups were in treatment and the highest disagreement rate was in chronic pain and pain behavior.

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 diagnosis and treatment of non-complex cases in dental schools. They must also learn to refer complicated cases.⁽⁹⁾

Tegelberg et al. examined the knowledge of general dental practitioners about temporomandibular disorders (TMDs) in children and adolescents. They mailed a questionnaire to 286 Swedish dentists and 17 TMD experts. The questionnaire contained 37 statements on etiology, diagnosis, classification, chronic pain and pain behavior, treatment, and prognosis. 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 general dental practitioners and TMD specialists. The highest number of significant inter-group differences was found in the treatment and prognosis.⁽³⁾ Their results are not consistent with those of this study, which might be explained by the fact that undergraduate curricula are different in different countries.

Tegelberg et al, in another study, 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.⁽¹⁰⁾ 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⁾

TMD pain often progresses to chronic pain and opinions of various experts on classification of acute and chronic pain are significantly different. Caring for patients with TMJ chronic pain is very important for reducing the risk of debilitating conditions. Effective ways to manage this condition include occlusal therapy, biofeedback and drug therapy.

Glaros et al conducted a study to determine the knowledge and beliefs of dentists regarding TMD and chronic pain. A survey instrument examining knowledge and beliefs in four domains (psychophysiology, psychiatric disorders, chronic pain, and pathophysiology) was used. The responses of the practicing dentists were compared to those of TMD experts. Results indicated that dentists generally agreed with experts in psychophysiological and psychiatric disorder domains but disagreed with the experts in the chronic pain and pathophysiology domains.⁽¹¹⁾ These results are almost consistent with those of this study, which can be explained by the fact that during the undergraduate years, the majority of dentists mostly receive courses focusing on the signs and symptoms, diagnosis, and treatment of TMD, with less attention to the underlying etiology. Furthermore, lack of encounter with TMD patients by dental students during their education leads to a lack of knowledge about the etiologic factors. The same is true even during their practice when confronting a TMD case, where the dentist does not put sufficient effort into looking for the underlying cause and makes a hasty diagnosis on the sight of the first sign and symptoms, leading to a treatment that only relieves pain and discomfort in the least amount of time possible. The fact of relying on personal experience is also confirmed by this theory, which is an indication of the

dentists' weak ability to figure out the underlying etiology.⁽⁸⁾

CONCLUSION

There was a high degree of agreement in TMD treatment among general dental practitioners and TMD specialists. However, in diagnosis and chronic pain behavior domains, there was considerable disagreement between general dental practitioners and TMD experts. It is therefore important to develop and strengthen undergraduate dental teaching and continuous education programs in TMD and orofacial pain.

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