Outcomes of temporomandibular joint disorders treatment after a survey in the population of Uttarakhand, Part I: An epidemiological study

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ABSTRACT

Aim: To observe the prevalence of signs and symptoms of Temporomandibular joint disorders in patients visiting outpatient department, AIIMS Rishikesh.

Method and material: The survey was conducted in a total of 960 patients, who visited outpatient Department (OPD), dept of Dentistry, AIIMS Rishikesh and were asked to fill a questionnaire based on Fonseca questionnaire for TMD in accordance to the inclusion and exclusion criteria.

Results: Out of 960 patients, 449 had no TMD, 322 patients had mild TMD, 123 moderate and severe TMD was seen in 54 patients. Also, male dominance for TMD was seen in all the groups. There was no age predilection; however most of the patients with severe TMD fell between 16 and 60 years of age.

Conclusion: TMD is a common problem occurring in all age groups, there was a male dominance seen in the epidemiological study.

1. Introduction

Temporomandibular joint disorders (TMD) are a common group of diseases which starts with pain in the temporomandibular joint (TMJ). Often it is difficult for the patient to distinguish the pain arising from muscular or the articular changes or if it is a TMJ pain at all! For TMJ pain most of the patients think they have an ear infection or a tooth ache. Signs and symptoms of TMD may include pain in the peri-auricular region, headaches¹ inability to open the mouth, clicking noise, inability to chew properly, speech problems, deviation or deflection and malocclusion.² Symptoms for both kind of disorder, myogenic and articular are the same, which most commonly start with pain in the peri-auricular region and inability to open the mouth.

There is vast literature which states that TMJ pain is multifactorial, the most prominent reasons which act as predisposing, triggering, or perpetuating factors are changes in occlusion such as missing teeth, occlusal interferences, deep untreated overjets and overbite midline discrepancies^{3,4} Apart from these parafunctional habits such as bruxism, tooth clenching, gum chewing, biting foreign objects, and prolonged nail biting might increase the risk of developing TMD.^{3,4} Also, psychological patients suffering from depression/anxiety⁵ or

working as teachers who speak for prolonged periods and musicians who play mouth related instruments are at a higher risk of developing TMD. Thus to find the prevalence and incidence of severity of TMD an epidemiological study was conducted.

2. Methodology

All patients visiting outpatient Department (OPD), dept of Dentistry, AIIMS Rishikesh were asked to fill a questionnaire based on Fonseca questionnaire for TMD under the following inclusion and exclusion criteria:

Inclusion criteria:

- Person visiting outpatient department
- Who are willing to take part in the study
- Participants having natural teeth or prosthesis (removable partial dentures/fixed partial denture/complete dentures) with a functional occlusion.

Exclusion criteria:

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Table 1
Fonseca questionnaire.⁶

S.NO.	Question	Yes	No	Sometimes
1.	Is it hard for you to open your mouth?			
2.	Is it hard for you to move your mandible from side to side?			
3.	Do you get tired/muscular pain while chewing?			
4.	Do you have frequent headaches?			
5.	Do you have pain on the nape or stiff neck?			
6.	Do you have earaches or pain in craniomandible joint?			
7.	Have you noticed any TMJ clicking while chewing or when you open your mouth?			
8.	Do you clench or grind your teeth?			
9.	Do you feel your teeth do not articulate well?			
10.	Do you consider yourself a tense or nervous person?			

- All subjects diagnosed as having stomatognathic system impairment
- Presenting orofacial pain or clinical alterations
- Any gross pathology of ear
- Receiving orthodontic treatment
- Patients under psychiatric treatment

Questionnaire proposed by Fonseca⁶ (Table 1) was used to classify TMD severity in the study population due to its high efficiency in obtaining epidemiological data. Questionnaire comprised of 10 questions, answered to be in 'yes'/'no'/'sometimes' and volunteers were asked to mark only one answer for each question. There was no time limit for completion. For analysis, the answers were tallied and 'yes' was given 10 points, 'sometimes' 5 points and 'no' was given a zero. All points were totaled and the final value was compared to the clinical index (Table 2). After analysis of results, volunteers were classified as per TMD degree.

3. Results

A total of 960 patients were analyzed. Out of 960 patients, 449 had no TMD, 322 patients had mild TMD, 123 moderate and severe TMD was seen in 54 patients (Fig. 1: graph 1).

In all the groups a male dominance was observed, in No TMD group, out of 449 patients, 327 were Males and 122 were female sufferers. In mild TMD group, out of 319 patients, 138 were Females and 181 males. In Moderate TMD, out of 135, 53 were Female and 85 males. In Severe TMD out of 54 patients, 30 were males and 24 Females (Fig. 2: graph 2).

In the severe TMD group, no age predilection was observed, however patients fell between the age of 16 years–60 years of age. Two young patients, aged 16 years and 19 years were also males.

4. Discussion

TMD is a common condition with varying symptoms, and as aforementioned, it is multifactorial⁷ which affects all age groups and in our epidemiological study none of the patients were aware about the actual underlying problem and most of the patients had shown for neck pain, earache and headaches, to various other doctors. Most of the times the disease goes undiagnosed as the TMD has referred pain to the

Fig. 1. Graph 1, showing patient in each category.

Fig. 2. Graph 2 showing dominance of males.

neck and forehead region. Another reason for its misdiagnosis is the lack of awareness about this condition and pain in the nape of the neck which often leads to conclusion of cervical pain as the symptoms are common and overlapping causing dilemma of proper diagnosis. It is a condition which can be treated and can also be diagnosed early with the help of tools such as Fonseca questionnaire⁶ and patients who are unaware about the condition or in short who have mild and moderate TMD can be made aware and treated early accordingly before the condition becomes severe.

Such questionnaires are simple, easy to use and easily understood by the patient, not time consuming and in many ways lead towards a provisional diagnosis of the disease/condition which can be further confirmed with tests. In our epidemiological survey, out of 960 patients 449 did not have any sign or symptom of TMD, however 54 patients had severe TMD and on further questioning it was discovered that they were unaware of the condition and were not under any treatment for the same. Even patients with mild and moderate TMD were unaware of the condition, such patients were further counseled and educated regarding their situation and were kept on conservative management as they reported at the dental office for another dental and maxillofacial complains and not TMD. Patients were also asked to report back if the condition worsened. Patients in whom the condition did not resolve, they were then treated with injecting Injectable Platelet Rich Fibrin (IPRF) in the joint space, which will be discussed in the part II of the current paper.

What was surprising is the finding that more men reported with TMD rather than women. Many researchers have reported that this condition is more severe in women rather than men, due to the role of estrogen^{7,8} and occurs more frequently in women of reproductive age. However, in the current epidemiological study conducted the most severe patient of TMD was a female aged 61 years of age. Our findings were not in accordance with the aforementioned data. Probable reason could be due to more men are indulging in weightlifting and heavy exercises, making their teeth clench and due to such parafunctional habits giving rise to TMD. Also there is more job-related stress to the

Table 2
Clinical index.

Points	Decision
0-15 points	No TMD
20-40 points	Mild TMD
45-65 points	Moderate TMD
70-100 points	Severe TMD

working class, creating psychological stress and giving rise to TMDs.

5. Conclusion

Such epidemiological studies are important as they highlight new findings, especially in the case of TMD as it occurs more frequently than people may realize, this also helps clinicians and gives them a chance to establish prevention and control programs.⁹ This statement can be truly stated for this epidemiological study, as a new finding of male predilection has come up, however it needs further studies to support the finding.

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