



Journal Homepage: [-www.journalijar.com](http://www.journalijar.com)

## INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI:10.21474/IJAR01/11901  
DOI URL: <http://dx.doi.org/10.21474/IJAR01/11901>



### RESEARCH ARTICLE

#### PREVALENCE OF OTOLARYNGOLOGICAL SYMPTOMS IN PATIENTS WITH TEMPOROMANDIBULAR DISORDERS- A CROSS-SECTIONAL STUDY

Dr. Annie Susan Thomas<sup>1</sup>, Ariel Hannah Philip<sup>2</sup> and Dr. Philip Oommen<sup>3</sup>

1. Professor, Department of Prosthodontics, Pushpagiri College of Dental Sciences, Thiruvalla, Pathanamthitta, Kerala, India.
2. 2<sup>nd</sup> year BDS Student, Christian Dental College, Ludhiana, Punjab, India.
3. Lecturer, Department of Pulmonary Medicine, GTDMC Alappuzha, Kerala, India.

#### Manuscript Info

##### Manuscript History

Received: 20 August 2020  
Final Accepted: 24 September 2020  
Published: October 2020

##### Key words:-

Temporomandibular Disorder,  
Otolaryngological Symptoms, Muscular  
Disorder.

#### Abstract

**Aim:** To investigate the prevalence of otolaryngological symptoms with Temporomandibular Disorders (TMD) in TMD patients.

**Materials and Methods:** In this cross sectional study, the sample consisted of 172 TMD patients, both males and females of 18-59 years. Diagnosis of TMD was based on Research Diagnostic Criteria for TMD (RDC-TMD) Axis 1. The prevalence of otolaryngological symptoms was determined using questionnaire. **Results:** Of the 172 TMD patients evaluated, 81 patients were having Muscular disorder alone or combined with Intracapsular disorder. Out of the 81 patients having muscular disorder, 74 had ear symptoms (91.4%).

**Conclusion:** A high prevalence (91.4%) of Otolaryngological symptoms with TMD was found in the present study. Ruling out causes of ear symptoms other than TMD by an ENT specialist is essential before proceeding with the treatment of these category of patients for a better prognosis.

Copy Right, IJAR, 2020,. All rights reserved.

#### Introduction:-

Considering the chronicity and widespread prevalence, Temporomandibular joint disorder (TMD) is the third stomatological disease to be considered as a populational disease. These disorders affect the quality of life of the patient, hindering their day to day activity. The epidemiological data clearly demonstrates that the patients with painful symptoms are increasing (approximately 40%) at an early age. The TMD is more common in females than in males.<sup>1</sup>

The Temporomandibular Joint functional disorders are manifested as acute or chronic pain symptoms in Temporomandibular Joints (TMJs) or in associated masticatory muscles. Smooth opening and closing movements of the mandible are also affected. Restrictions in mouth opening, clicking and crepitation sounds on mouth opening are also associated with TMD.<sup>2</sup>

Otolaryngological symptoms can also be associated with this type of disorder, which are earache, ear stuffiness, sore and burning throat, difficulties in swallowing, tinnitus and vertigo. Due to vertigo, patient will have the fear to walk around.<sup>3-7</sup> The present study is aimed to find out the association between otolaryngological symptoms and TMD.

**Corresponding Author:- Dr. Annie Susan Thomas**

Address:- Professor, Department of Prosthodontics, Pushpagiri College of Dental Sciences,  
Thiruvalla, Pathanamthitta, Kerala, India.

### Materials & Methods:-

A descriptive cross-sectional study was conducted in patients who reported to the TMD clinic - both males and females aged 18- 59 years. A total of 172 patients with TMD was randomly selected. Diagnosis of TMD was based on Research Diagnostic Criteria for TMD (RDC-TMD) Axis 1. Of the participants, those having muscular disorder and intracapsular disorder were separately categorised by questionnaire. Ear symptoms were also assessed by questionnaire. It was confirmed from the questionnaire that there was no history of otolaryngological procedures within three preceding years in the participants.

### Results:-

Of the 172 TMD patients evaluated 81 patients were having Muscular disorder alone or combined with Intracapsular disorder. Out of the 81 patients having muscular disorder, 74 had ear symptoms (91.4%).

### Discussion:-

The association between TMD and accompanying hearing organ symptoms was mentioned in literature, since a long time. The incidence of ear symptoms along with TMD was reported to be about 5-30%.<sup>8-11</sup> This association may be attributed to common embryonic origin of ear and masseter muscle. This can also be due to compression of nerves, vessels and ligaments by posteriorly displaced condyles in the middle and inner ear regions. Posteriorly displaced condyles may occur due to lack of molar stops (missing teeth not replaced) and bruxism which causes generalised attrition eventually leading to reduction in vertical dimension. This can also occur in anterior disc displacement cases where the condyles are posteriorly positioned.<sup>3,10</sup>

The present study shows a strong association between TMD and ear symptoms (91.4%). Ruling out causes of ear symptoms other than TMD by an ENT specialist is essential before proceeding with the treatment of these category of patients for a better prognosis.<sup>12,13,14</sup>

### Conclusion:-

Symptoms of hearing organ are important elements of the symptomatology of functional disturbances of masticatory apparatus, particularly in cases having negative results from ENT consultations. When the other causes for ear symptoms are excluded, functional disturbances of masticatory organ should be given due importance.<sup>1,4,9-15</sup>

### References:-

1. B. Piorkowska, Skrabucha, E. Czelej-Piszcz, M. Litko and J. Kleinrok, "Subjective symptoms in mandibular dysfunctions- a review of the literature", *Implantoprotetyka*, vol.9, no.2, pp.46-50, 2008.
2. Dworkin SF, LeReshe L." Research Diagnostic Criteria for temporomandibular disorders: review, criteria, examinations and specifications, critique". *J CraniomandibDisord* 1992;6(4):301-55.
3. G. Pekkan, S. Askoy, C. Heklmoglu and F. Oghan, "Comparative audiometric evaluation of temporomandibular disorder patients with otological symptoms", *Journal of Craniomaxillofacial Surgery*, vol.38, no.3, pp.231-234, 2010.
4. M. Pihut, P. Majewski, G. Wisniewska and E. Reron, "Auriculovestibular symptoms related to structural and functional disorders of stomatognathic system", pp. 251-256, 2011
5. Costen JB. A syndrome of ear and sinus symptoms dependent upon disturbed function of temporomandibular Joint. *Am OtolRhinolLarygol* 1934;13:1.
6. R. Buegers, T. Kleinjung, M. Behr and V. Vielsmeier, "Is there a link between temporomandibular disorders?" *The Journal of Prosthetic Dentistry*, vol.111, no.3, pp.222-227, 2014
7. A.D.D. Saldanha P.B. Hilgenberg, I.M.S Pinto and P.C.R. Conti "Are Temporomandibular Disorders and tinnitus associated?" *The Journal of Craniomandibular Practice*, vol.30, no.3, pp.166-171, 2012
8. G. Salvetti, D. Manfredini, S. Barsotti and M. Bosco "Otologic symptoms in temporomandibular disorder patients: is there evidence of an association relationship?" *Minerva Stomatologica*, vol.55, no. 11-12, pp.627-637, 2006.
9. O. Bernhardt, D. Gesh, C. Schwahn et al, Signs of temporomandibular disorders in tinnitus patients and in populational group of volunteers: results of study of health in Pomerania "Journal of Oral Rehabilitation", vol.31, no.4, pp.311-319, 2004.
10. A.A. Morais and D. Gil, tinnitus in individuals without hearing loss and its relationship with temporomandibular dysfunction". *Brazilian Journal of Otolaryngology*, vol. 78, no.2, pp. 59-65, 2012.

11. H.H.Tuz, E.M. Onder and R.S. Kinsnisci,” Prevalence of ontological complaints in patients with Temporomandibular Disorder”, American Journal Of Orthodontics and Dentofacial Orthopedics, vol.123, no.6, pp.620-623,2003.
12. A. Ramirez, OSandoval and I. Ballejeros, Theories on otic symptoms in temporomandibular disorders: past and present”, International Journal Of Morphology, vol.23, no.2, pp. 141-156,2005.
13. A. Al-Tuhafi, “Aural symptoms in Temporomandibular disorder patients”, Al-Rafidain Dental Journal, vol.5,no.1,pp.57-62,2005
14. H. Seedorf and H.D.Jude, “Ootalgia as a result of certain temporomandibular joint disorders”, Laryngo-Rhino Otologic, vol.85, no.5, pp.327-332, 2006.
15. C.M. Camparis, G. Formigoni, M.J.Teixeria and J.T.T. De Siqueria, “Clinical evaluation of tinnitus patients with sleep bruxism: prevalence and characteristics”, Journal of Oral Rehabilitation, vol.32,no.11,pp.808-814,2005.