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Prevalence of Temporomandibular Joint Disorder Among Professional Students In Central Kerala

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Abstract:
Aim: *The aim of the present study was to find out the prevalence of Temporomandibular disorder (TMD) among students of professional colleges.*
Materials and Methods*: A sample of 81 people were randomly grouped in which 10 were males and 71 were females of the age group 18- 25 years from professional colleges. Prevalence of TMD was checked using a questionnaire asking for the signs of TMD such as clicking, crepitation, deviation, deflection and pain in relation to TMJ and masticatory muscles, functional disturbances like limitation of mouth opening, unilateral chewing habit and type of diet.*
Results*: 90 percent of men and 41 percent of women among professional students were having TMD (at least one sign or symptom of TMD). 79% of TMD patients had unilateral chewing habit. 99% of the patients were non-vegetarian.*
Conclusion*: Males showed a higher prevalence of TMD in the present study in professional institutions. The increased level of TMD among males may be due to the stress resulting from pressure to perform better than female counterparts as the professional schools of medical side in Kerala at present consists of a greater preponderance of female professionals over males.*
Keywords: *Temporomandibular disorder (TMD), prevalence, signs and symptoms, unilateral chewing habit.*

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I. Introduction

Temporomandibular joint (TMJ) is a complex joint which provides opening and closing as well as protrusive, retrusive and lateral excursive movements of mandible on temporal bone. This synovial system is constituted by two temporomandibular joints along with their associated articulating ligaments and masticatory muscles. The functions of this joint have an important role in communication, feeding and emotional expression which is essential for the wellbeing of human being.

Any disturbance in TMJ or associated structures can lead to Temporomandibular Joint Disorder (TMD) affecting one's quality of life. This is characterized by pain and tenderness in relation to TMJs and masticatory muscles, joint sounds, functional disturbances like limitation or incoordination of jaw movements. TMD is an interrelated set of clinical conditions observed as signs and symptoms in masticatory and associated muscles of head and neck as well as the soft tissues and bony components of TMJ [1-4].

Commonly attributed etiological factor for TMD are psychological stress [5], parafunctional activities like bruxism, trauma, occlusal interferences etc. [1].

In the previous epidemiological studies on TMD, it was shown that women were having a greater prevalence compared to men. But recently some of the studies suggest that men can have an equal prevalence rate or a high prevalence rate. Most of the studies was related to general population the present study is concentrated on professional students. The result of academic stress on health of professional students is well mentioned in the literature [6].

Aims and Objectives

1. To determine the prevalence of TMD in men and women of the age group 18- 25 years who were students of professional colleges.
2. To determine the possible etiological factors like chewing habit and type of diet.

II. Materials And Methods

A cross-sectional study was conducted to find out the prevalence of TMD in a randomly selected population of 18-25-year age group in the professional colleges, Pushpagiri College of Dental Sciences and Pushpagiri College of Pharmacy.

The signs and symptoms of TMD, unilateral chewing habit, diet (non-vegetarian/vegetarian) were obtained by a questionnaire.

The random sample comprised of 81people from Pushpagiri College of Dental Sciences and Pushpagiri college of Pharmacy of which10 were men and 71 were women of the age group 18-25 years.

Questionnaire

Each subject was asked to complete the questionnaire given. Questions examined whether they had any TMD symptoms.

1. Joint sounds
2. Deviation on opening the mouth
3. Difficulty in opening the mouth fully
4. Pain in relation to TMJ
5. Pain in relation to masticatory muscles
6. Unilateral chewing habit
7. Diet (Non-veg/Veg)

The answers to questions 1-6 were Yes or No or at times and for the 7th question, the subjects were asked to tick the diet they were consuming. Those who have at least one above-mentioned sign or symptom were categorized under TMD.

III. Results

Among the randomly collected sample of 81 professional students, 47 percent of the patients was reported to have TMJ disorders. 90 percent of males and 41 percent females were having TMD.

The students were further categorised according to their chewing habits and their diet.

79 percent of the TMD patients preferred one sided chewing and 99 percent of the TMD patients were non vegetarian.

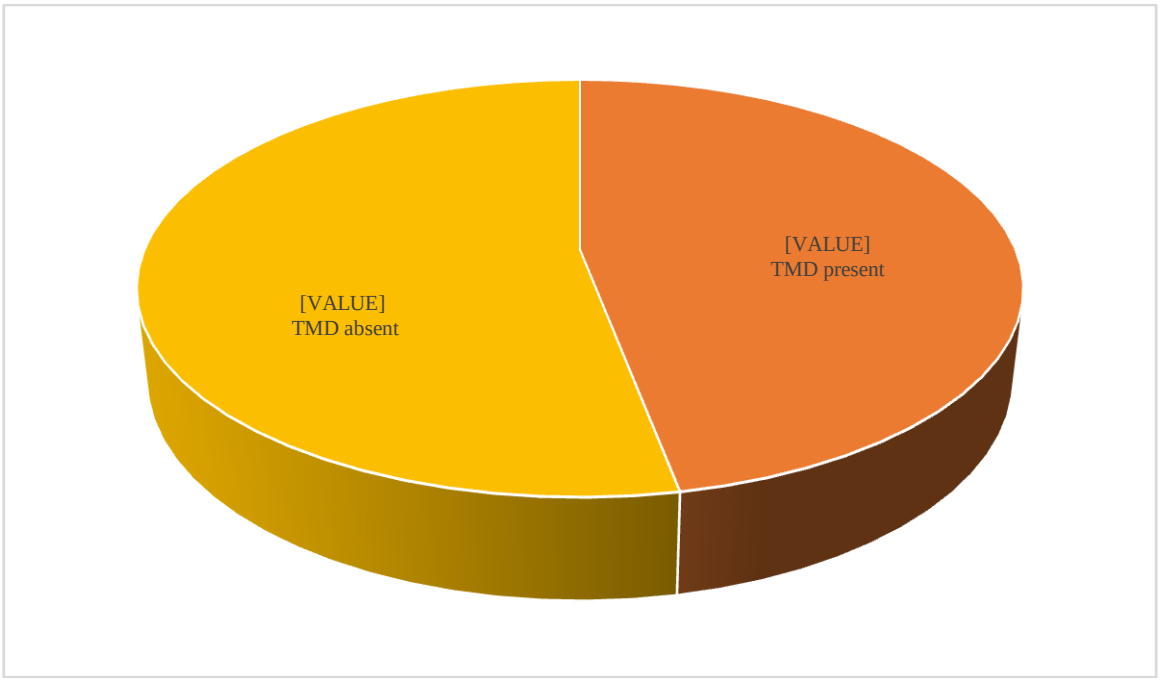

Figure 1: Pie chart demonstrating presence and absence of TMD among the sample.

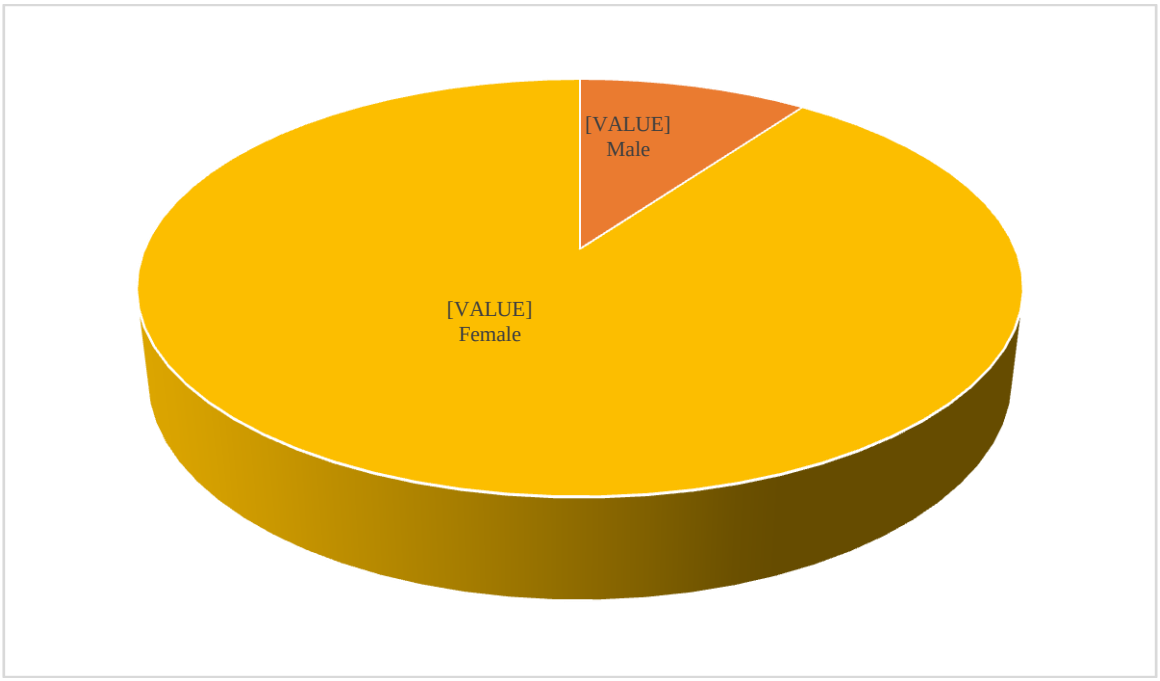

Figure 2: Pie chart showing the percentage of males and females among the collected sample.

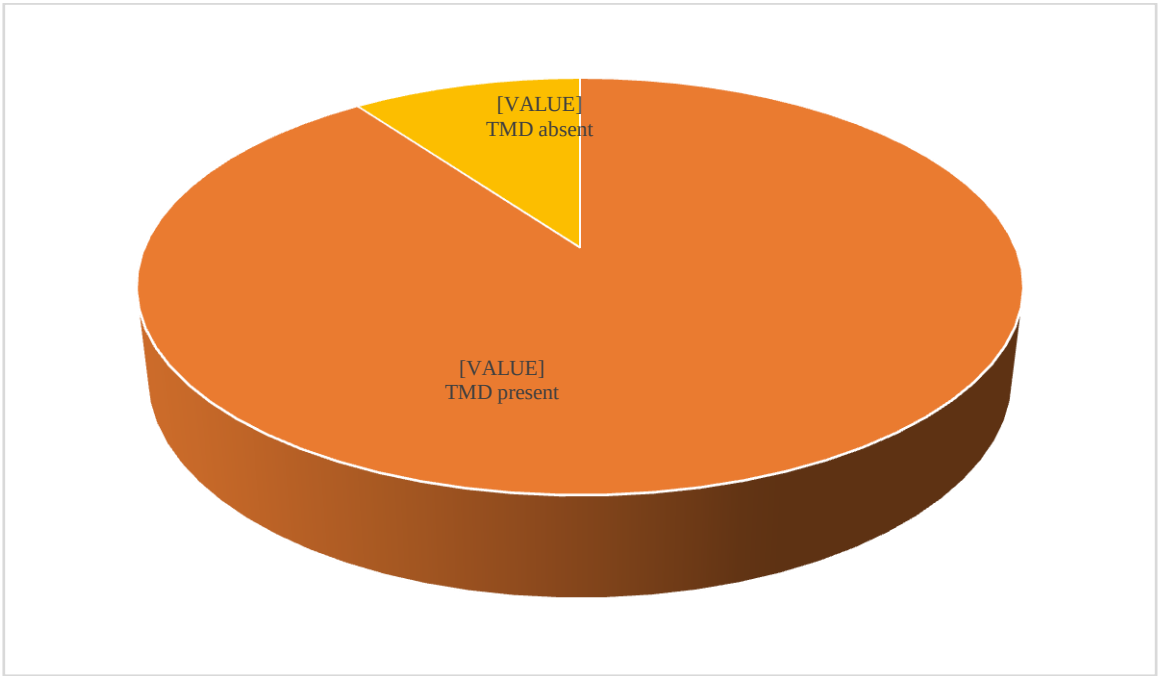

Figure 3: Pie chart showing presence or absence of TMD among male subjects.

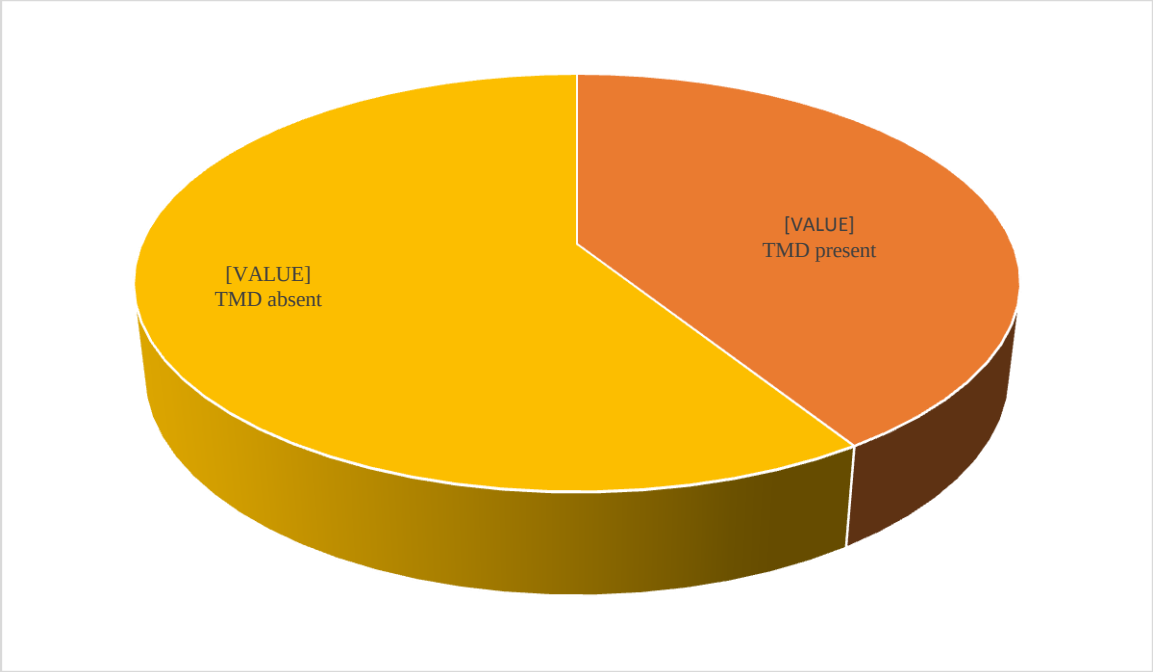

Figure 4: Pie chart showing presence or absence of TMD among female subjects.

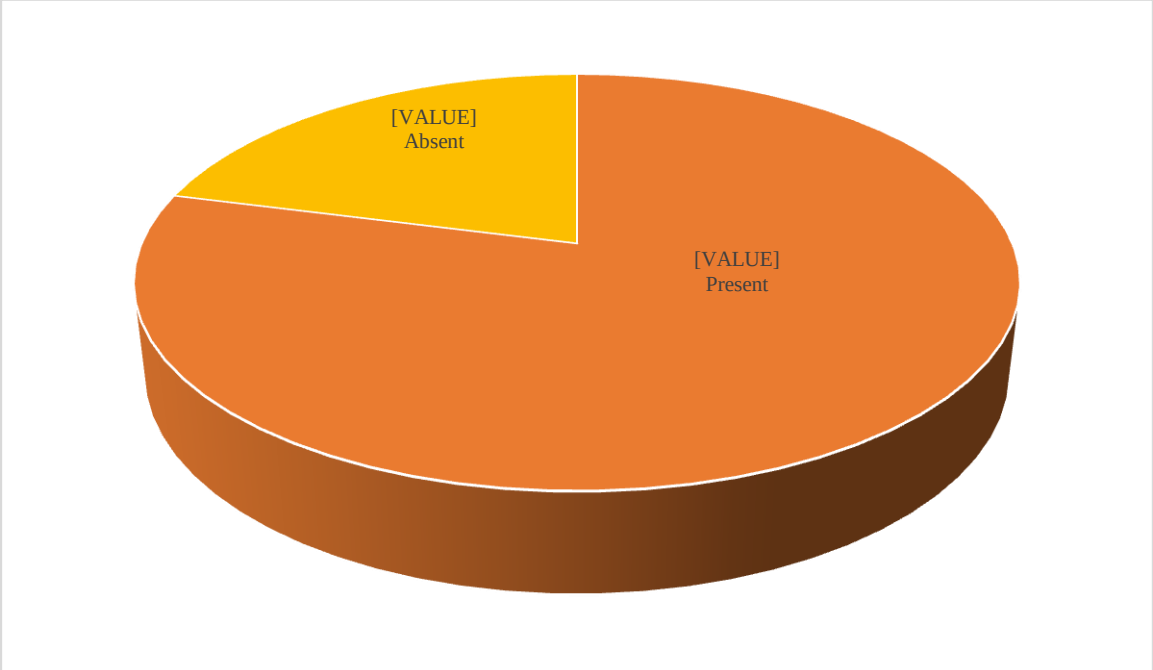

Figure 5: Pie chart representing the percentages of presence or absence of unilateral chewing habit in TMD patients.

IV. Discussion

The present study has shown that the prevalence of the TMD in male professional students are higher than female students.

Lee et al. and Kashef K. AlShaban et al. reported in their studies, the predominance of male with TMD [7,8].

P. Modi et al. found out that there is no significant relationship between females and males in TMD [9]. Some other studies pointed out the predominance of females with TMJ disorders [10-13].

Most of the participants preferred to chew on one side leading to overloading of that particular TMJ leading to TMD [14]. Non vegetarian food like meat is usually harder than the vegetarian food. Consuming harder nonvegetarian food along with unilateral chewing can surely have damaging effect on that particular TMJ [15,16].

The role of stress, depression and strong pressure on the subjects to show excellence are well documented etiological factors in the occurrence of TMD. Psychological stress can lead to bruxism which can overload the masticatory system leading to TMD [5,6].

Most of the previous epidemiological studies states that women were having a high rate of TMD than men. Almost all previous studies concentrated on the general population category. The present study concentrates on professional students.

Limitations of the study

1. Sample size of the present study is less.
2. The number of the men in study is also less.

In the future studies number of men should be more and can take large sample sizes. The amount of stress among professional students can be assessed using a suitable stress scale.

V. Conclusion

Pain and dysfunction associated with temporomandibular disorders can adversely affect the well- being any human being. Professional students who are considered as the cream of the society needs much care and support as they have to attain higher standards in their education compared to those pursuing a less demanding career. The present study shows that unilateral chewing of harder non-vegetarian food along with academic stress on the professional students can be a major contributing factor in developing TMD. Men showed a higher prevalence of TMD in this study in the professional institution because of increased level of competence and strong need to make themselves par ahead of the female counterparts. Methods to cop up with the increased stress should also be a part of professional students' curriculum. Proper education of bilateral chewing habit can make a vast difference to decrease the incidence of TMD.

Stress coping up strategies and proper chewing habits can be applied to any strata of life to reduce the incidence of TMD.

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