Frequency of Symptoms of Temporomandibular Disorders among Prishtina Dental Students

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Abstract

BACKGROUND: Early diagnosis of temporomandibular disorders (TMD) is important for prevention of greater damages of the parts of the oro-facial system. There are early symptoms that can be used as predictors of TMD.

AIM: The study aimed to assess the frequency of the symptoms of TMD among dental students.

METHODS: Total number of 166 respondents, all undergraduate dental students, (84 female, 82 male), mean age 22, participated in this study. For the study, the questionnaire of Fonseca was used. There were ten questions to answer with: no, sometimes and yes. Fonseca-Clinical index classification is: 0-15 points, no TMD; 20-40 points, mild TMD; 45-65 points, moderate TMD and 70-100 points, severe TMD.

RESULTS: Forty-six point four percentages of the students, had no symptoms of TMD, 44.6 % had mild TMD, 7.8% moderate TMD and only 1.2 % had severe TMD. By conventional criteria, there is not any statistical difference of the TMD between male and female ($\chi2 = 1.133$, p = 0.769).

CONCLUSION: Fonseca questionnaire has its importance in the early diagnosis of TMD that can occur in the young population.

Introduction

Temporomandibular Disorders (TMD) are a group of signs and symptoms related to an orofacial region that typically involves the Temporomandibular Joints (TMJ), occlusion and masticatory muscles [1, 2].

There are a variety of pain experiences that may involve the maxillofacial structures. These types of pain are of special significance to the dental profession not only because of the area of the body affected but also because of their complexity. Therefore many authors propose a multifactor aetiology for TMD [3-9].

These etiologic factors can vary from occlusal disharmony, masticatory muscle fatigue, oral habits, neoplastic growths, emotional stress, unilateral chewing and early loss of teeth, bruxing or it can be the combination of such factors [10].

Because of the variability of complaints, TMD is diagnosed by associating signs and symptoms that may be frequent even in the non-patient population [11-15].

According to the literature, the prevalence of the TMD ranges from 20-50 %. This difference can be associated with the different methods of collecting data or different population or race [16-19].

The most common method for obtaining the initial data of TMD, among the non-patient population is using the Fonseca questionnaire. This questionnaire allows collecting the data in a short period with a low cost, and it's easy to understand from the examinees [20].

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Fonseca index is frequently used in Brazil to classify the severity of the signs and symptoms of TMD [11, 20-22] and further development in diagnosing of TMD [23].

The Research Diagnostic Criteria for Temporomandibular Disorders (RDC/TMD) aimed to standardize the diagnosis and classification of the different clinical forms of TMD [2, 16].

Therefore the rationale for this study was to pay attention to TMD among young students, due to its prevalence even in this period of life, as well as high social and personal cost to treat it.

Material and Methods

The research was carried out in Department of Prosthetic Dentistry, University of Prishtina, Kosovo. A total number of respondents was 166 (84 female, 82 male). They were all volunteers; undergraduate dental students mean age 22.

For the study, the questionnaire of Fonseca (1994) [25] was used. This questionnaire proposed by Fonseca is commonly used to classify TMD severity because it is good in obtaining relevant data. [18, 26, 27]. The questionnaire was translated in Albanian language and was distributed to the students. There were ten questions to answer with: No, Sometimes and Yes (Table 1).

Table 1: The questions of Fonseca index

1. Do you have difficulty opening your mouth wide?
2. Do you have difficulty moving your jaw to the side?
3. Do you feel fatigue or muscle pain when you chew?
4. Do you have headaches?
5. Do you have neck pain or a stiff neck?
6. Do you have ear aches or pain in that area (temporomandibular joint)?
7. Have you ever noticed any noise in your temporomandibular joint while chewing or opening your mouth?
8. Do you have any habits such as clenching or grinding your teeth?
9. Do you feel that your teeth do not come together well?
10. Do you consider yourself a tense (nervous) person?

For analyze of the answers, the following values were used: 10 for Yes, 5 for Sometimes and 0 for No. The total score gives the Fonseca index classification (Table 2).

Table 2: Fonseca-Clinical index classification

0-15 points, no TMD
20-40 points, mild TMD
45-65 points, moderate TMD
70-100 points, severe TMD.

Data analysis

Numerical series are analyzed by descriptive statistics and mean±standard deviation (SD). Chi-Square test ($p < 0.05$) was used for finding the statistical difference between men and women.

Results

Forty-six points four percentages % of the students have no symptoms of TMD, 47 % have mild TMD, 7.2% moderate TMD and only 1.2 % have severe TMD. Based on the results, there is no difference of Fonseca Index, due to the sex (Table 3).

Table 3: Classification of Fonseca Index

	Women	Man	Respondents	%
No TMD	37	37	74	44.6
Mild TMD	39	39	78	47.0
Moderate TMD	8	4	12	7.2
Severe TMD	0	2	2	1.2
Total	84	82	166	100

$\chi 2$ test = 1.133, P=0.769

From all the questions, the most frequent answer with "Yes" was the seventh question, (Did you notice any clicking on the TMJ during chewing or opening the mouth?) with 21.7% (Table 4).

Table 4: Respondents for the question no. 7 (Did you notice any clicking on the

TMJ during chewing or opening the mouth?)

	Respondents	%
No	88	53.0
Sometimes	42	25.3
Yes	36	21.7
Total	166	100.0

The most frequent answer with "No" was the first question, (Do you have difficulties on opening the mouth) with 88.6% (Table 5).

Table 5: Table of respondents for the question no. 1 (Do you have difficulties on opening the mouth)

	Respondents	%
No	147	88.6
Sometimes	17	10.2
Yes	2	1.2
Total	166	100.0

For the second question, (Do you have difficulties on moving the mandible from side to side) with 88.6% (Table 6).

Table 6: Table of respondents for the question no. 2 (Do you have difficulties on moving the mandible from side to side)

	Respondents	%
No	147	88.6
Sometimes	15	9.0
Yes	4	2.4
Total	166	100.0

Discussion

Using Fonseca questionnaire, there is possible to collect a lot of important data that can be

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very useful for early diagnosis of TMD [11, 27, 28].

In our sample 44.6 % of participants have no symptoms of TMD, 47 % have mild TMD, 7.2% moderate TMD and only 1.2 % have severe TMD. These results are similar to the findings of Nomura et al. and Rashid Habib et al. [11, 28].

Manfredini et al. [24] found a TMD prevalence from 2.6% to 11.4% in the normative population, in different countries while Agerberg and Ikapool [29] found the even higher percentage of TMD signs and symptoms of the general population, 88.0% of 637 individuals. In another side, Carlsson [30] found that TMD prevalence varies between 6.0% and 93.0%.

Based on our results, there is no difference of Fonseca Index, due to the sex (X2 test = 1.133, P=0.769) while Gonçalves et al. [31] found a 39.2% prevalence of TMD symptoms in the Brazilian population, in which women were significantly more likely to have TMD than men (RR > 1.0; p < 0.001). Based on the results of Bevilaqua-Grossi et al. [20], Magnuson et al. [32] and Celic at al. [33] women are also more affected of TMD.

The most frequent answer with "Yes", in our study was the seventh question, (Did you notice any clicking on the TMJ during chewing or opening the mouth?) with 21.7%, while Nomura et al. [11] in their study have found 65.52% positive answers for the same question.

Although there were used ten questions of the Fonseca questionnaire, Campos JADB [34] et al., based on their data, suggest that Fonseca questionnaire (1994) should be adapted, so it includes only questions 1, 2, 3, 6 and 7 of the original version. So, [35] showed that reduced Fonseca questionnaire is also valid and reliable.

In conclusion, Fonseca questionnaire has its importance in the early diagnosis of TMD that can occur in the young population.

Acknowledgements

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