ASSESSMENT OF PREVALENCE OF TEMPOROMANDIBULAR DISORDERS IN PATIENTS WITH COMPLETE DENTURE WEARER

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ABSTRACT

Background: Some predisposing factors which have been highlighted in recent studies are female gender and being edentulous for a long span of time without denture. The present study was conducted to assess prevalence of temporomandibular disorders in patients with complete denture wearer.

Materials & Methods: 138 complete denture wearers of both genders were included. Symptoms of TMD associated with jaw movement such as opening and closing the mouth, chewing and pain in the preauricular, masseter, or temple region and sounds such as clicking, popping, grating, crepitus was considered.

Results: Male had 41% and females had 33.3% of TMJ disorders. Crepitus was seen in 18, pain while mouth-opening in 12, clicking in 9, tenderness in 4 and limitation of mouth opening in 4 cases. The difference was significant (P< 0.05).

Conclusion: There was high prevalence of TMJ disorders in patients with complete denture wearer.

Key words: Clicking, Denture wearer, TMDs

I. INTRODUCTION

The term temporomandibular disorder (TMD) includes anatomical and physiological disorders associated with the temporomandibular joints (TMJ), muscles of mastication, or both. These are otherwise called temporomandibular pain dysfunction disorders. TMJ disorder has a multifactorial etiology which involves changes in occlusion, faulty prosthesis, traumatic insult to TMJ, psychological components, and para-functional habits such as bruxism.¹

Some predisposing factors which have been highlighted in recent studies are female gender and being edentulous for a long span of time without denture.² It has additionally been demonstrated that TMD changes over time, and no reasonable denouement has been arrived yet about its natural progression or about the factors contributing to the evolution of TMD. In addition, the quantity of individuals who see subjective manifestations or signs of TMD is more than the quantity of individuals looking for treatment, and females will probably look for treatment than male partners.³

It is concurred that edentulous individuals do not present with TMDs to the extent of those having natural dentition because of the lack of proprioceptive feedback from dentition to trigger the symptom complex of TMD.⁴ There are some controversial issues such as overclosure of the jaws in persons with natural dentition which can predispose to TMD whereas long-standing edentulous span individuals without dentures rarely develop TMDs despite overclosure.⁵ However, it is observed that edentulous individuals who do not gripe about TMD on an arbitrary examination may hint at least one or more signs of TMD, which may later form into a

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conspicuous joint dysfunction. The present study was conducted to assess prevalence of temporomandibular disorders in patients with complete denture wearer.

II. MATERIALS & METHODS

The present study comprised of 138 complete denture wearers of both genders. Inclusion criteria were healthy asymptomatic TMD patients, completely edentulous and patients wearing CD. All were informed regarding the study and their written consent was obtained.

Data such as name, age, gender etc. was recorded. A thorough clinical examination was performed by single dental surgeon. The diagnosis of TMD was based on history and physical examination findings. The symptoms of TMD associated with jaw movement such as opening and closing the mouth, chewing and pain in the preauricular, masseter, or temple region and sounds such as clicking, popping, grating, crepitus was considered. Results were analyzed statistically. P value less than 0.05 was considered significant.

III. RESULTS

Table I Distribution of patients

<table>
<thead>
<tr>
<th>Gender</th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>78</td>
<td>60</td>
</tr>
</tbody>
</table>

Table I shows that out of 138 patients, males were 78 and females were 60.

Table II Prevalence of TMJ disorders

<table>
<thead>
<tr>
<th>Total</th>
<th>Prevalence</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>32</td>
<td>41%</td>
</tr>
<tr>
<td>Female</td>
<td>20</td>
<td>33.3%</td>
</tr>
</tbody>
</table>

Table II shows that male had 41% and females had 33.3% of TMJ disorders.

Table III Temporomandibular disorder signs in complete denture wearers in relation to edentulous span

<table>
<thead>
<tr>
<th>TMJ disorders</th>
<th>1-3 years</th>
<th>3-5 years</th>
<th>&gt;5 years</th>
<th>Total</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain while mouth opening</td>
<td>6</td>
<td>4</td>
<td>2</td>
<td>12</td>
<td>0.01</td>
</tr>
<tr>
<td>Crepitus</td>
<td>1</td>
<td>4</td>
<td>13</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>Tenderness</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Limitation on mouth opening</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Muscle tenderness</td>
<td>1</td>
<td>5</td>
<td>1</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Clicking</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>9</td>
<td></td>
</tr>
</tbody>
</table>

Table III, graph I shows that crepitus was seen in 18, pain while mouth opening in 12, clicking in 9, tenderness in 4 and limitation of mouth opening in 4 cases. The difference was significant (P< 0.05).

Graph I Temporomandibular disorder signs in complete denture wearers in relation to edentulous span
IV. DISCUSSION

The various signs of TMD may appear in many combinations and degrees such as headache, pain over the joint, pain which aggravates while opening the mouth, tenderness of muscles, restricted mouth opening, jaw deviation while opening the mouth, crepitus, and clicking sounds in the region of joint. These signs may appear in various combinations and degrees. Since the complete dentures (CD) cannot trigger any proprioceptive response, the role of occlusion to produce muscle spasm does not apply to CD patients. It is concurred that edentulous individuals do not present with TMDs to the extent of those having natural dentition because of the lack of proprioceptive feedback from dentition to trigger the symptom complex of TMD. A long edentulous span without prosthesis is found to be one of the common predisposing factors for TMD. Some signs of TMDs are facial pain, headache, pain over the joint, pain which aggravates while opening the mouth, muscle tenderness of musculature, pain which is at the angle of lower jaw and cervical muscles, restricted mouth opening, deviation of jaw while opening the mouth, crepitus, and clicking sounds in joint region. These signs may appear in various combinations and degrees. The present study was conducted to assess prevalence of temporomandibular disorders in patients with complete denture wearer.

In present study, out of 138 patients, males were 78 and females were 60. Alzarea et al included four hundred completely edentulous individuals in the age group of 45–75 years, who did not complain of any TMD and were denture bearers with varied denture-wearing span. The total prevalence of TMD in the group was 60.5% (58.75% in males and 63.12% in females). It has been observed that more number of females (63.21%) reported signs of TMD and majority of them (23.25%) reported with two signs of TMD. The occurrence of findings was not statistically related to edentulous span.

We found that male had 41% and females had 33.3% of TMJ disorders. Shetty et al planned to find out the prevalence of various temporomandibular joint dysfunction signs in subjects who were edentulous for a period of 6 months to 2 years. The various signs were obtained from a population of 100 healthy asymptomatic edentulous subjects by a questionnaire and then were clinically examined for the presence or absence of signs of temporomandibular Joint dysfunction. 59% of the subjects exhibited one or more signs of temporomandibular Joint dysfunction, 41% of the subjects did not show any signs of temporomandibular Joint dysfunction. 56.6% of males reported signs of temporomandibular Joint dysfunction when compared with females which was 62.5%. 43.3% of males did not show any signs of Temporomandibular Joint Dysfunction when compared with those of the females which was 37.5%. The number of subjects who showed two signs was 29%, subjects who had only one sign was 25%. It was found that dysfunction was prevalent among both men and women in more than half of the asymptomatic subjects examined. 59% had one or as many as three signs of temporomandibular dysfunction. The most commonly seen joint dysfunction was the joint sounds which was 47%.
V. Conclusion

Authors found that there was high prevalence of TMJ disorders in patients with complete denture wearer.

REFERENCES