Original Article

Assessment of Psychological Depression among Edentulous Patients in Tiruchengode – A Cross-sectional Study

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Abstract

Introduction: Depression and anxiety are two psychosocial illnesses that are mostly comorbid. The prevalence of psychosocial diseases is increasing worldwide. Both can affect general and oral and dental health, which can be physiological or behavioral. **Aim:** The aim is to assess the Psychological Depression among edentulous patients in Tiruchengode. **Settings and Design:** This was a cross-sectional study conducted in Tiruchengode. **Materials and Methods:** The study was performed among 60 completely edentulous patients of Tiruchengode using the Patient Health Questionnaire for 5 months. **Statistical Analysis:** Descriptive analysis was performed using SPSS Version 25. **Results:** About 56.67% of patients were in the nonminimal group, 33.33% of them were in mild depression, and 10% were in moderate depression level. **Conclusion:** Depressive symptoms were associated more with poor appetite and impaired chewing ability. Hence, more awareness and care should be given, particularly to older individuals with complete edentulism, which causes chewing disability.

Keywords: Completely edentulous, depression, oral rehabilitation, poor appetite

Introduction

Face constitutes an important position in our body.[1] In dentistry, tooth loss may cause problems such as difficulty in masticating the food, improper digestion, poor absorption, inability to speak, lack of concentration to work, and feeling insecure to get exposure to the public.[2,3] Tooth loss mainly occurs due to destructive periodontal conditions. It is associated with lower oral health-related quality of life (OHRQOL),[2-6] resulting in psychological depression.[7-13]

Since no study has been done till now in the completely edentulous population of Tiruchengode to assess the level of their psychological depression; current study was formulated.

Materials and Methods

The ethical clearance to proceed with the study was obtained from the institutional review board before the commencement of the study. A calibrated dentist from the Department of Public Health Dentistry along with the assistant, performed oral examination. Patients reporting to college were selected for the study using the convenience sampling method. Both male and female completely edentulous patients were included in the study and the patients with partial edentulous arch, along with those who were not willing to participate in the study, were excluded. Informed consent and an information sheet about the study were given to the patient in both English and the local language for their convenience. This cross-sectional type of study was done using the Patient Health Questionnaire (PHQ-9), which is a widely validated depression screening tool for the primary care of higher and lower income countries.[14] The questionnaire (PHQ-9) is a close-ended, self-administered scale obtained from the Primary Care Evaluation of Mental Disorders and it is based on the Diagnostic and Statistical Manual of Mental Disorders Fourth Edition (American Psychiatric Association, 2000) criteria for major depressive disorder.[15] The study was done for 5 months (May 2022 to September 2022). The sample size was calculated from previous research[16] as 60 using Gpower software.

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Statistical analysis

Data obtained was analyzed using the Statistical Package for the Social Sciences (SPSS) software version 25.0 (SPSS Inc., Chicago, USA). A descriptive analysis was performed.

Results

A total of 60 completely edentulous patients were assessed among which 46.67% (28) were males and 53.33% (32) were females. The results of the study showed no significance based on gender distribution [Table 1].

Study participants when assessed based on their age distribution, showed that majority of them were between 56 and 60 years (30%), followed by the age group between 61 and 65 years (20%). About 13.33% of the population was seen in three age categories: 51 and 55 years, 66 and 70 years and >70 years. The least population of 10% belonged to the age group of 41 and 45 years [Table 2].

Graph 1 depicts the responses of the PHQ-9. It denotes that the response of "not at all" was highest for the question "Thoughts that you would be better off dead, or of hurting yourself." Response of "several days" was highest for the "Poor appetite or overeating" question. Moreover, in a similar way, the response of "more than half the days" was highest for both the "Feeling tired or having little energy" and "Poor appetite or overeating" questions.

Table 3 depicts the scoring criteria for Patient Health Questionnaire - 9. Graph 2 reveals that 56.67% of the study participants were in nonminimal depression state, followed by 33.33% in a mild and the remaining 10% in a moderate depression state.

Discussion

In 2012, Bortoluzzi *et al*.[3] conducted a study on Brazilian patients to observe the tooth loss and analyze their chewing ability to relate how the tooth loss affects the quality of life in individuals. It was found that the chewing disability produces a significant and negative impact on OHRQOL. Results showed that poor QoL and chewing disability are related to decrease in the number of natural teeth.

Literature[16] also reveals that chewing problems are associated with depression in the elderly population. This is in relevant to the current study since most of them have responded that they have issues with appetite [Graph 1].

Al-Zahrani *et al*.[17] in a study that investigated the association of depression with tooth loss in a US adult population. The results showed that depression was associated with edentulism and a lack of functional dentition.

Research done by Okoro *et al*.[18] revealed that tooth loss was associated with depression and anxiety. From all the research

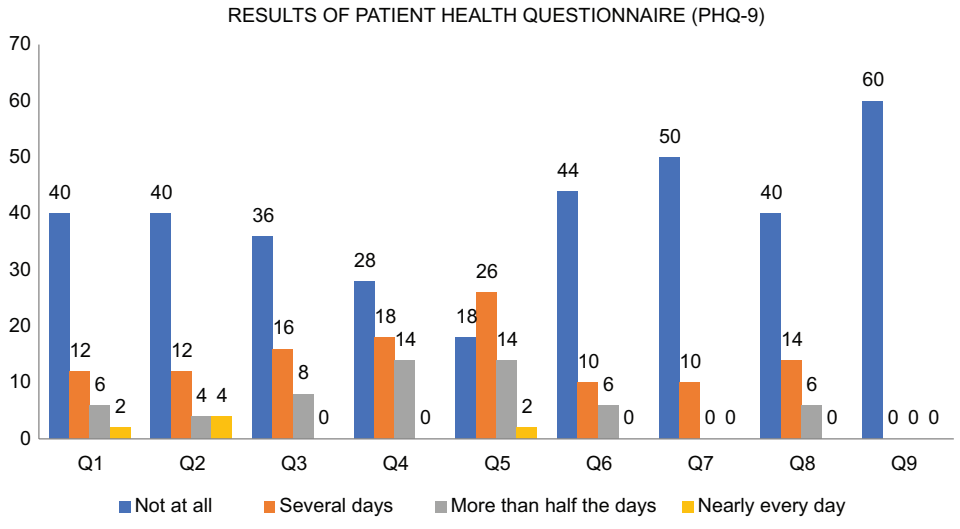
Table 1: Distribution of completely edentulous patients based on gender

Gender	Distribution, *n* (%)	Mean±SD	*P*
Male	28 (46.67)	4.29±1.697	0.156
Female	32 (53.33)	4.56±1.684	0.221

<0.05 - statistically significant. SD: Standard deviation

Table 2: Distribution of study participants based on their age groups

Age (years)	*n*=60, *n* (%)	Males (*n*=28), *n* (%)	Females (*n*=32), *n* (%)
41–45	6 (10)	4 (14.29)	2 (6.25)
46–50	0	0	0
51–55	8 (13.33)	2 (7.14)	6 (18.75)
56–60	18 (30)	8 (28.57)	10 (31.25)
61–65	12 (20)	8 (28.57)	4 (12.5)
66–70	8 (13.33)	4 (14.29)	4 (12.5)
>70	8 (13.33)	2 (7.14)	6 (18.75)

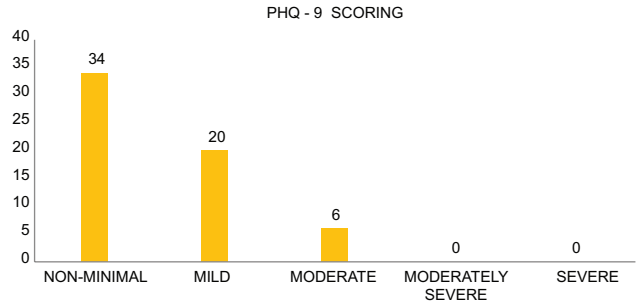


Graph 1: Distribution of responses for psychological depression using (Patient Health Questionnaire – 9)

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Table 3: Scoring criteria for Patient Health Questionnaire-9

Scores	Interpretations
0–4	Nonminimal
5–9	Mild
10–14	Moderate
15–19	Moderately severe
20–27	Severe



Graph 2: Distribution of patients on the level of their depression based on Patient Health Questionnaire-9

conducted on edentulism and depression, we can understand that edentulism is moreover related to depression.

Limitations

Although both edentulism and depression are correlated there are few limitations in the current study. Based on the response given by study participants, we cannot perfectly derive the cause–effect relationship. Denture wearers and the new cases who are going to wear the prosthesis thereafter were not categorized in the study, which may have produced bias in results based on the patient's thinking ability. Since it has been done in a small population, further generalization cannot be appropriate. Apart from depression, certain other variables related to esthetics, societal self-esteem, and food intake could have given a better insight into the study, which would be considered in later studies.

Conclusion

Depressive symptoms were associated more with poor appetite and impaired chewing ability. Hence, the highest amount of care should be given toward rehabilitation of oral health among completely edentulous patients in order to prevent their emerging chance of depression occurring due to chewing disability. Oral health promotion among the target population can be achieved by the oral health education and awareness program.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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