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Association Between Oral Health Status And Quality Of Life Among Selected South Indian Population

Research Article

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Abstract

Background: Periodontal disease is a major oral health problem, which approximately affects 15–17% of the adult population. However, the periodontal disease not only affects the supporting structures of the oral cavity, but also has a negative impact on the oral health-related quality of life.
Aim: the aim of the study was to assess the association between oral health status and quality of life among a selected South Indian population.
Materials and Methods: The present study was conducted among 150 outpatients who reported to the Department of Periodontics, Saveetha Dental College and Hospitals, Chennai, India. Based on the periodontal status of the patients, patients were categorised as follows: Group 1 - Clinically healthy (50 patients); Group 2 - Gingivitis (50 patients); Group 3 - Periodontitis (50 patients). To measure patient based outcomes, Oral Health Impact Profile-14 (OHIP-14) item questionnaire was used. The OHIP-14 questionnaire consists of seven divisions and the patients were asked to rate each item on a 5-point scale. The OHIP-14 score is the sum of responses and ranges from 0 to 56. The data was analyzed using Statistical Package for Social Sciences (SPSS Software, Version 23.0). The association between oral health status and quality of life was done using Chi-square test. The level of significance was set at $p<0.05$.
Results: The association between oral health status and quality of life was done using Chi square test. OHIP-14 questionnaire score range of 41-56 was predominantly given by 39 patients with periodontitis. 21-40 range of scores were predominantly given by 15 patients with gingivitis. 0-20 range of scores were predominantly given by 42 individuals with clinically healthy gingiva. The association between oral health status and quality of life was found to be statistically insignificant with the p value of 0.00.
Conclusion: The present study suggests that patients with periodontitis presented with poor quality of life when compared to patients with gingivitis and individuals with clinically healthy gingiva. Hence, oral health status is directly associated with quality of life.

Keywords: Gingivitis; Oral Health; Periodontitis; Quality Of Life; Innovative.

Introduction

Recent advances regarding the pathogenesis, prevention, and treatment of periodontal disease in recent years, these advances have not been accompanied by a significant reduction in the prevalence and severity of periodontal disease [1, 2]. The clinical parameters used to record data in chronic periodontitis patients include gingival index, probing periodontal depth and clinical attachment level and also bad breath and chronic inflammation. The primary etiology of gingivitis is plaque, but there are several aggravating [3] factors including habits like smoking, stress, genetic factors, systemic diseases and hormonal distress [4-12]. Untreated gingivitis will cause periodontitis, which manifests as increased pocket depth, recession, furcation involvement, mobility, bone loss[13-17].

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Such symptoms existing for a chronic period of time certainly has a great impact on the quality of life in patient's lives [18]. Since the disease does not present with any symptoms at its initial stage, patients may be unaware of this health condition and ignore the treatment options [19]. There prevails a misunderstanding that exists among people about the periodontal disease which they think affects only the soft and hard tissue components of the oral cavity but then it also affects the quality of life is the bitter truth that is not prevalent in individuals [20].

Periodontal disease has currently been found to be coexisting with health conditions like cardiovascular disease, respiratory diseases, and diabetes [21-23]. Patients with diabetes and other comorbid conditions are more prone to suffer from periodontal disease [24]. Various studies have emerged that focus on the patient centered outcome of periodontal treatment [25-29]. A better understanding of the consequences of periodontal disease and its treatment on patient's perceptions of how their oral health affects their daily lives can help to address a patient's needs and concerns and plan the appropriate treatment [30].

Concern towards the quality of life is growing rapidly. Thousands of articles are being published every year about this topic [31]. There is a growing positive attribute among dentists that patients' opinions should be considered in the decision-making process to provide a more comprehensive evaluation of the value [32]. Needleman et al researched the impact of oral health on quality of life in a group of periodontal patients. Only few reports have been reported about the impact of oral health-related quality of life associated with periodontal health or disease in general [33].

The success of any treatment or study depends on the outcome or result and so patient centered use holds a significant importance and is rapidly growing in dentistry. Our team has extensive knowledge and research experience that has translated into high quality publications [34-53]. The aim of the study was to assess the association between oral health status and quality of life among a selected South Indian population.

Materials and Methods

Study Setting:

The present study was conducted among 150 outpatients who reported to the Department of Periodontics, Saveetha Dental College and Hospitals, Chennai, India. The ethical clearance was obtained from the Institutional Ethical Committee and a written informed consent was obtained from all the study participants. The patients were screened for bleeding on probing, clinical attachment loss and probing depth. Patient who presented with no bleeding on probing, 1-3 mm pocket depth and no clinical attachment loss were categorized under clinically healthy gingiva, patients who presented with bleeding on probing, 1-3mm of pocket depth with no attachment loss were categorized under gingivitis and patients with bleeding on probing, pocket depth of more than 3 mm with attachment loss were classified under periodontitis. Based on the periodontal status of the patients, patients were categorised as follows: Group 1 - Clinically healthy (50 patients), Group 2 - Gingivitis (50 patients), Group 3 - Periodontitis (50 patients).

To measure patient based outcomes, Oral Health Impact Profile-14 (OHIP-14) item questionnaire was used. The OHIP-14 questionnaire consists of seven divisions and the patients were asked to rate each item on a 5-point scale coded 0 "never", 1 "hardly ever", 2 "occasionally", 3 "fairly often" and 4 "very often". The OHIP-14 score is the sum of responses and ranges from 0 to 56, higher scores indicating poorer oral health related quality of life.

Statistical Analysis:

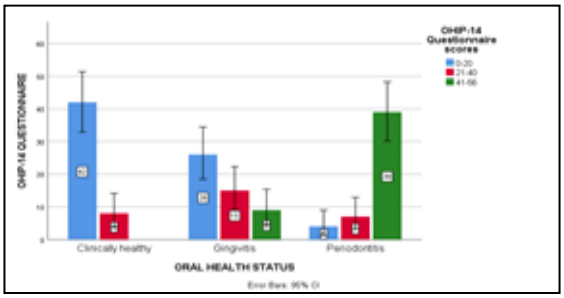
The data was analyzed using Statistical Package for Social Sciences (SPSS Software, Version 23.0). The association between oral health status and quality of life was done using Chi-square test. The level of significance was set at $p<0.05$.

Results

In the present study, 150 patients were enrolled and they were divided into three groups based on their oral health status as clinically healthy, gingivitis and periodontitis (50 patients each). OHIP-14 scores were recorded for all the study subjects and were associated with their oral hygiene status.

Among 50 clinically healthy individuals, 42 of them had given OHIP-14 questionnaire scores within the range of 0-20, 8 of them had given scores within the range of 21-40. Among 50 patients with gingivitis, 26 patients had given scores within the range of 0-20, 15 patients had given scores within the range of 21-40

Figure 1. Graph representing the association between the OHIP-14 scores and the oral health status of the study participants. X axis represents the oral health status of participants and Y axis represents OHIP-14 questionnaire scores of the participants. Blue colour denotes OHIP-14 scores within the range of 0-20, red colour denotes scores within the range of 21-40 and green colour denotes scores within the range of 41-56. OHIP-14 questionnaire score range of 41-56 was predominantly given by patients with periodontitis. 21-40 range of scores were predominantly given by patients with gingivitis. 0-20 range of scores were predominantly given by individuals with clinically healthy gingiva. The association between oral health status and quality of life was found to be statistically insignificant with the p value of 0.00 (Chi square test).



and 9 patients had given scores within the range of 41-56. Among 50 patients with periodontitis, 4 patients had given scores within the range of 0-20, 7 patients had given scores within the range of 21-40 and 39 patients had given scores within the range of 41-56.

The association between oral health status and quality of life was done using Chi square test. OHIP-14 questionnaire score range of 41-56 was predominantly given by patients with periodontitis. 21-40 range of scores were predominantly given by patients with gingivitis. 0-20 range of scores were predominantly given by individuals with clinically healthy gingiva. The association between oral health status and quality of life was found to be statistically insignificant with the p value of 0.00. (Figure 1).

Discussion

The present study was done to assess the oral health status and quality of life among the selected South Indian population.

Quality of life is nowadays identified as a valid and vital indicator of service need and intervention outcomes in public health research and practice. To improve the quality of life, measures have been taken and initiated like objective and subjective assessments which is especially useful for evaluating efforts to prevent disabling chronic diseases and their consequences on patient's health [54-55]. The graph clearly explains the quality of life in periodontitis, gingivitis and patients with clinically healthy gingiva. With 21 - 40 being the moderate score, it was seen that gingivitis patients (16%) have scored their quality of life affected to be within the score 21-40. But with 56 being the highest score, periodontitis patients have scored their quality of life to be in between a score of 41 and 56. Swollen gums, sore gums, receding gums, loose teeth, halitosis and toothache were associated with increased impact. The impact of oral health on quality of life in relation to self-reported symptoms of periodontal diseases were apparent [56].

Previous study conducted in the Chinese population states that the impact of oral health on the quality of life of the participants was 22%, which means the answers were mostly fairly often or very often. This draws light on the influence of periodontal disease on routine life and its impact on oral health related quality of life [57]. Another study which was conducted by K. Goel et al., showed the comparison between the impact of chronic periodontal diseases and non-surgical periodontal therapy on oral health-related quality of life and proved that reported periodontal diseases or gingivitis tends to influence the quality of life in such patients. When treated they showed appreciable improvement which was noted [58]. Shah M et al in his study assessed the quality of life of the chronic periodontitis patients using OHIP-14 questionnaire after non-surgical periodontal therapy and stated that periodontal disease was associated with quality of life [59]. Similar results were obtained in few other studies [60, 61]

A study conducted by Needleman et al focussed to explore the impact of oral health on quality of life in periodontal patients. Hence forth, periodontal status was found to be related to the patient's quality of life [33]. It was also found that certain external factors like gender and demographics influence the result of the study. A similar study with such results was found and has been demonstrated in a study of its association with dental anxiety in the United Kingdom, accounting for about 18% of the variance of the total score. A study conducted by K.S.Sam et al., showed that social class, in terms of educational level, was associated with the OHIP-14S score while gender was not associated [62].

Our findings are in agreement with the previous studies, as both the oral health status and patient based outcomes were associated with each other. Further studies need to be conducted to compare the quality of life before and after the management of periodontal diseases.

Conclusion

The present study suggests that patients with periodontitis presented with poor quality of life when compared to patients with gingivitis and individuals with clinically healthy gingiva. Hence, oral health status is directly associated with quality of life.

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