

ORIGINAL RESEARCH

Quality of Life of Patients Having Periodontal Diseases in Karnataka, India

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ABSTRACT

Aim and Objectives: The purpose of this study was to assess the influence of periodontal disease on the quality of life in the adult population of Karnataka.

Materials and Methods: The study was conducted on 50 subjects aged between 24 and 68 years. The data have been gathered using clinical examinations according to the World Health Organization (WHO) criteria, while for the quality of life evaluation, the subjects completed the oral health impact profile (OHIP)-14 questionnaire.

Results: According to the results of the study, the most affected OHIP dimensions found to be: "Psychological discomfort," "functional limitation," and "physical pain" among the patients, while the higher OHIP scores were recorded in patients with aggressive periodontitis.

Conclusion: The study concluded that the periodontal disease can affect the quality of life, especially of those patients suffering from aggressive periodontitis.

Keywords: Aggressive periodontitis, Oral health, Periodontal diseases, Quality of life.

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INTRODUCTION

Periodontal infection and inflammation interact with many other factors experienced by adults, and they likely

reduce oral function, drop quality of life, poor nutrition, and increase the patient's risk of developing several chronic systemic diseases. Since the consequences of periodontal disease are severe, general dentists need to help older adults preserve their periodontal health.^[1] To evaluate the quality of life, we can use the oral health impact profile (OHIP) which is a multidimensional construct that reflects comfort when eating, sleeping, and engaging in social interaction, self-esteem, and satisfaction with oral health.^[2] The negative effects of periodontal disease on quality of life were reported in a great number of studies. Periodontitis can affect not only the ability to eat, speak, and socialize but also interpersonal relationships and daily activities.^[3] To reduce the consequences of periodontal disease on the quality of life, we have to plan and evaluate the periodontal care and treatment adequately to address the needs and concerns of the patients.^[4] As compared with simple knowledge of the effects of oral diseases on teeth and surrounding tissue, people are more likely to behave positively when they have a more comprehensive understanding of how such diseases affect their general health and quality of life.^[5] The aim of this study was to assess the impact of periodontal diseases on quality of life among patients with chronic and aggressive periodontitis in Karnataka.

METHODOLOGY

This cross-sectional study was conducted in 2017 on a random sample of 50 patients aged 25–68 years who had at least 20 teeth. The exclusion criteria were as follows: (1) The presence of a mental or psychological disorder, (2) need for antibiotic for the past 6 months, (3) presence of removable dentures, and (4) presence of carious lesions or symptomatic oral lesions. Data were collected using a structured questionnaire which contained information about sociodemographic and other relevant characteristics including age, sex, years of education, personal income, self-reported history of chronic conditions, regular use of medication at the time of data collection, smoking status, frequency of brushing, and previous dental visits and periodontal treatments during the past 6 months. Participants were also asked if they had ever received a diagnosis of any chronic illnesses. To measure the impact of periodontitis on quality of life, we used the OHIP short form or OHIP-14.

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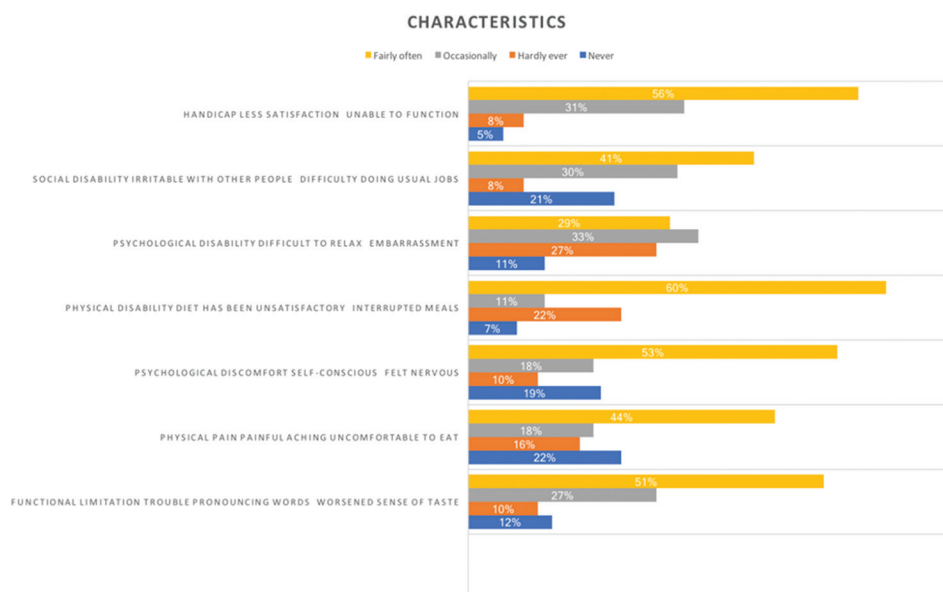
This index is a reduced form of the original, containing only 14 questions divided into the same seven domains: Functional limitation, physical pain, psychological discomfort, physical disability, psychological difficulty, social obstacle, and social handicap.^[1-6] Questions are answered on a Likert scale from 0 to 4, with 0=never, 1=hardly ever, 2=occasionally, 3=fairly often, and 4=very often. All participants underwent a clinical periodontal examination by a calibrated dentist. The oral hygiene of six selected teeth and the periodontal status of all teeth, excluding third molars, were assessed using the plaque index (PI) of Loe and Silness (Loe and Silness, 1963), the gingival index of Silness and Loe (Silness and Loe, 1964), and probing pocket depth (PPD).^[7-10] The six selected teeth were the Ramfjord teeth, which include the maxillary right first molar, the maxillary left central incisor, the maxillary left first premolar, the mandibular left first molar, the mandibular right central incisor, and the mandibular right first premolar. Dental mirrors and explorers were used to assess plaque accumulation and gingival status, and William’s periodontal probes were used to measure PPD. Six representative teeth and two surfaces (buccal and oral) of each studied tooth were assessed and scored for PI. PPD was measured at six sites (mesiofacial, midfacial, distofacial, and mesiolingual, midlingual, and distolingual) per tooth for all teeth, excluding third molars. The number of decayed teeth, filled teeth, and missing teeth (MT) for each participant were recorded according to the WHO criteria (WHO, 1997).^[11] The Statistical Package for the Social Sciences (SPSS, version 20.0, Chicago, IL, USA) was used for data processing and data analysis.^[12] The Chi-square test was used to assess associations between categorical variables. $P < 0.05$ was considered statistically significant.

RESULTS

Results of this study comprised 50 adults (31 men and 19 women) aged between 25 and 68 years, with a mean age of 48.8 (standard deviation: 13.34) years. The distribution of the 50 patients regarding to periodontal disease was 86% chronic periodontitis and 14% aggressive periodontitis. Overall, the mean number of MT was 4.7 and 12.4% of participants had no MT. The severity and extent of periodontal disease increased as age advanced. The results concerning the impact of periodontal disease on quality of life are presented in Graph 1. Occasionally/fairly often was reported on one or more items of OHIP-14 by more than half of patients with chronic periodontitis (54%) and over 60% of patients with aggressive periodontitis. There are no reported answers “very often” from both groups. Psychological discomfort was the most frequently reported complaint among participants. All subscale scores, except that for functional limitation, significantly differed by the type of periodontal disease. The average OHIP-14 score was significantly higher in patients with aggressive periodontitis than in patients with chronic periodontitis. Patients with aggressive periodontitis had significantly higher average scores of physical pain, physical disability, social disability, and handicap subscales. Furthermore, the average score for patients with aggressive periodontitis was higher than that for patients with chronic periodontitis.

DISCUSSION

Periodontal disease is one of the two major dental diseases that affect human populations worldwide at high prevalence rates. The prevalence and severity of periodontal disease have been measured in population surveys in several developed and developing countries,



and these studies were carried out with a wide range of objectives, designs, and measurement criteria. This study examined 50 patients with aggressive periodontitis and chronic periodontitis. Several methods have been developed to study the distribution of periodontal diseases in a population. These methods are usually used to determine both the occurrence of periodontal diseases and the associated conditions in the community. For each or more than one of the periodontal conditions, there is an index that is specifically designed to score the presence and/or extent of each condition of interest. The OHIP-14 is the most widely used instrument for evaluating the adverse impact of oral conditions on well-being. This finding is in agreement with that reported by Ng and Leung (2006). The impact of periodontal diseases on patient QoL was moderate in some domains, mainly physical pain and psychological disability. Ng and Leung^[12] reported a perceived impact on the domains of physical pain and psychological disability, and studies using the OHQoL-UK measure also reported a perceived impact on physical domains.^[13] We found that the severity of periodontal disease was not significantly associated with functional limitation subscales. In contrast, Ng and Leung^[12] and Araújo *et al.*^[14] reported that oral health had a considerable impact on functional limitation. The average OHIP-14 score was significantly higher in patients with aggressive periodontitis than in patients with chronic periodontitis. Patients with aggressive periodontitis had significantly higher average scores for the physical pain, physical disability, social disability, and handicap subscales. These findings are consistent with those of other studies.^[15,16] However, because the study participants were selected from patients referred to our department of periodontology, it is reasonable to assume that they had more oral health complaints, as compared with a normal population, and were more health conscious. For reducing the discomfort caused by the disease, we recommend to achieve a preventive, therapeutic, and maintenance treatments with periodic checks.

CONCLUSION

Periodontal disease had a negative impact on quality of life, and this impact was greater in patients with severe periodontal disease. These findings have significant implications in periodontal disease assessment, planning, treatment, and subsequent evaluation of periodontal care. Related quality of life assessment can be

used for periodontal preventive community programs to reduce the prevalence of periodontal diseases.

REFERENCES

1. Locker D, Jokovic A, Clarke M. Assessing the responsiveness of measures of oral health-related quality of life. *Community Dent Oral Epidemiol* 2004;32:10-8.
2. Post MW. Definitions of quality of life: What has happened and how to move on. *Top Spinal Cord Inj Rehabil* 2014;20:167-80.
3. Slade GD. Oral health-related quality of life is important for patients, but what about populations? *Community Dent Oral Epidemiol* 2012;40 Suppl 2:39-43.
4. Slade GD. Derivation and validation of a short-form oral health impact profile. *Community Dent Oral Epidemiol* 1997;25:284-90.
5. Locker D. Concepts of oral health, disease and the quality of life. In: *Measuring Oral Health and Quality of Life*. Chapel Hill: University of North Carolina; 1997.
6. Leão MM, Garbin CA, Moimaz SA, Roviada TA. Oral health and quality of life: An epidemiological survey of adolescents from settlement in pontal do paranapanema/SP, Brazil. *Cien Saude Colet* 2015;20:3365-74.
7. Cano-Gutiérrez C, Borda MG, Arciniegas AJ, Borda CX. Edentulism and dental prostheses in the elderly: Impact on quality of life measured with EuroQol visual analog scale (EQ-VAS). *Acta Odontol Latinoam* 2015;28:149-55.
8. Reissmann DR, John MT, Schierz O, Kriston L, Hinz A. Association between perceived oral and general health. *J Dent* 2013;41:581-9.
9. Zimmer S, Bergmann N, Gabrun E, Barthel C, Raab W, Rüffer JU, *et al.* Association between oral health-related and general health-related quality of life in subjects attending dental offices in Germany. *J Public Health Dent* 2010;70:167-70.
10. Ulinski KG, Nascimento MA, Lima AM, Benetti AR, Poli-Frederico RC, Fernandes KB, *et al.* Factors related to oral health-related quality of life of independent Brazilian elderly. *Int J Dent* 2013;2013:1-18.
11. Locker D, Slade G. Association between clinical and subjective indicators of oral health status in an older adult population. *Gerodontology* 1994;11:108-14.
12. Ng SK, Leung WK. Oral health-related quality of life and periodontal status. *Community Dent Oral Epidemiol* 2006;34:114-22.
13. Weintraub JA. Uses of oral health related quality of life measures in public health. *Community Dent Health* 1998;15:8-12.
14. Araújo AC, Gusmão ES, Batista JE, Cimões R. Impact of periodontal disease on quality of life. *Quintessence Int* 2010;41:e111-8.
15. Locker D, Leake JL. Risk indicators and risk markers for periodontal disease experience in older adults living independently in Ontario, Canada. *J Dent Res* 1993;72:9-17.
16. Greenstein G. Contemporary interpretation of probing depth assessments: Diagnostic and therapeutic implications. A literature review. *J Periodontol* 1997;68:1194-205.