TO EVALUATE AWARENESS AND ACCEPTANCE OF PERIODONTAL DISEASE AND THERAPY AMONG PATIENT VISITING AMC DENTAL COLLEGE: A QUESTIONNAIRE SURVEY

Manuscript Info

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Manuscript History

Received: xxxxxxxxxxxxxxx
Final Accepted: xxxxxxxxxxx
Published: xxxxxxxxxxxxxxx

Key words:-
Periodontal disease,Preventive dentistry, Patient awareness,Acceptance ofperiodontal therapy,

Abstract

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Background: Periodontal diseases are among the most common oral health problems worldwide and are characterized by inflammation and destruction of the supporting structures of the teeth. They can lead to tooth loss, impaired function, and a negative impact on overall health and quality of life. This study aimed to assess patients' knowledge, understanding, and attitudes toward periodontal disease, and to evaluate their awareness and acceptance of periodontal treatment.

Materials and Methods:A cross-sectional, questionnaire-based study was conducted among 440 patients visiting the outpatient department of Periodontology at AMC Dental College, Ahmedabad, India. The study was carried out from January 2024 to June 2024. A structured questionnaire containing 13 questions was administered in the local language using Google Forms. Responses were recorded on a three-point scale (Yes, No, Maybe) and analysed using descriptive statistics.

Results: Most participants demonstrated awareness of basic aspects of periodontal health, including recognition of bleeding gums (60.5%) and tooth loss due to periodontal disease (59.8%). However, limited awareness was observed regarding diabetes as a risk factor (27.5%), medication-induced gingival swelling (27.5%), laser therapy (24.5%), bone grafting (17.5%), and local antibiotic delivery (16.6%). A common misconception was that scaling results in the loss of tooth substance (68.6%), indicating the need for improved patient education.

Conclusion: The findings highlight considerable gaps in knowledge and several misconceptions related to periodontal disease and its treatment. Targeted educational strategies are required to enhance patient understanding, increase treatment acceptance, and improve overall periodontal health outcomes.

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Introduction:

Periodontal diseases are among the most prevalent oral health problems worldwide, affecting a large proportion of the adult population. Characterized by the inflammation and destruction of the supporting structures of the teeth, periodontal diseases can lead to tooth loss, impaired function, and significant impacts on general health and quality of life. In India, the burden of periodontal disease remains exceptionally high, with national data indicating that a large proportion of adults experience some form of periodontal breakdown (Bali et al., 2004) [(1)(2)(3)]. Gingivitis and periodontitis not only compromise oral health but are also associated with systemic conditions such as diabetes mellitus and cardiovascular

disease [4][5]. In India, periodontal disease is a major cause of tooth loss, particularly among adults over 40 years of age, accounting for approximately 50–70% of extractions in this group. (Bali et al., 2004; Kumar et al., 2009; Sharma et al., 2016) [1][2] . Despite advances in preventive and therapeutic strategies, many patients remain unaware of the causes, consequences, and treatment options related to periodontal conditions.

Patient awareness and acceptance of periodontal therapy play a critical role in the prevention and management of these diseases. Inadequate knowledge and negative perceptions can result in delayed diagnosis, poor compliance with treatment recommendations, and suboptimal outcomes. In India, varying literacy levels, socioeconomic factors, and cultural beliefs further influence attitudes toward oral health care and utilization of dental services.[6] AMC Dental College serves a diverse patient population, providing an opportunity to assess current levels of understanding and acceptance regarding periodontal disease and its management. Evaluating these factors is essential to identify knowledge gaps, improve patient education, and design effective community-based interventions.

This questionnaire survey aims to assess the awareness and acceptance of periodontal disease and therapy among patients attending AMC Dental College. The findings are expected to guide strategies to enhance periodontal health literacy and promote positive attitudes toward periodontal care.

Materials and Methods:

This cross-sectional questionnaire-based study was conducted in the Outpatient Department of Periodontology, AMC Dental College, Ahmedabad. Ethical clearance was obtained from the Institutional Review Board (IRB) of AMC Dental College prior to the commencement of the study. A total of 440 patients visiting the department were recruited for the study. Data were collected using a pre-validated structured questionnaire administered through Google Forms. To ensure better comprehension, the questionnaire was provided in the participants respective local language. The questionnaire comprised 13 questions, of which the first six questions assessed knowledge regarding periodontal disease, including its symptoms and risk factors. The remaining seven questions evaluated participants awareness and acceptance toward periodontal treatment. Responses were recorded on a three-point Likert scale with the options “Yes,” “No,” and “Maybe.” (table no. 1) The collected data were compiled and analysed using simple descriptive statistics to summarize the study variables.

Table 1: Questionnaire to Assess Awareness and Acceptance of Periodontal Disease and Therapy Among Patients

Sr. No.	Questions	Response
1	Do you feel bleeding gums while brushing or flossing is sign of gum disease?	Yes \ No \ May be
2	Do you feel tooth loss is due to periodontitis?	Yes \ No \ May be
3	Consulting dental specialist required when you notice a mobile tooth or bad breath?	Yes \ No \ May be
4	Do you feel that diabetesincrease your risk of gum disease?	Yes \ No \ May be
5	Do you feel that swelling of gums can be caused by certain medications?	Yes \ No \ May be
6	Do you feel that smoking , tobacco chewing can aggravate gum disease?	Yes \ No \ May be
7	Do you feel that early gum therapy can help for reduction of tooth movement?	Yes \ No \ May be
8	Do you think scaling can contribute to tooth substance loss?	Yes \ No \ May be
9	Do you know that for dental procedure new technologies like laser are being use?	Yes \ No \ May be
10	Can smile design can be achieved by esthetic periodontal surgery?	Yes \ No \ May be
11	Do you know that bone graft material use for regeneration of bone?	Yes \ No \ May be
12	Are you aware that systemic antibiotic can be delivered locally in your gum?	Yes \ No \ May be
13	Are you aware that dental implants are used for replacement of your tooth?	Yes \ No \ May be

Results:

A total of 440 participants were included in this study, with ages ranging from 14 to 95 years (mean = 39.44 years, SD = 15.201), representing a diverse age group. Among the participants, 60.2% were male and 39.8% were female, indicating a higher participation rate among males.

Awareness of Periodontal Disease:

1.Yes, bleeding gums are a sign of periodontal disease. Among the respondents, 60.5% recognized bleeding gums as a sign of periodontal disease, while 35% did not consider it an indicator of the disease, demonstrating a substantial need for education (Figure 1).

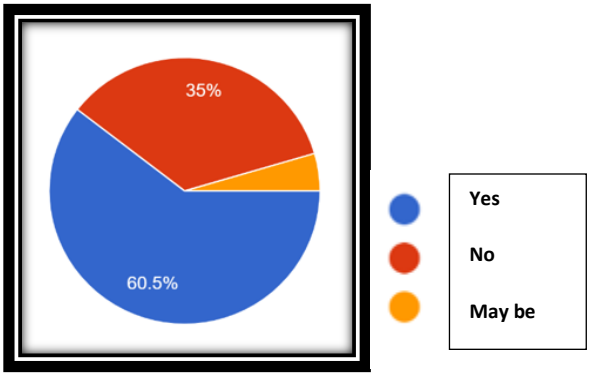

Figure 1: Do you feel bleeding gums while brushing or flossing is sign of gum disease?

2.Yes, tooth loss is due to periodontitis. In this study, 59.8% of respondents were aware that periodontitis could lead to tooth loss, whereas 34.3% disagreed, highlighting a significant knowledge gap (Figure 2).

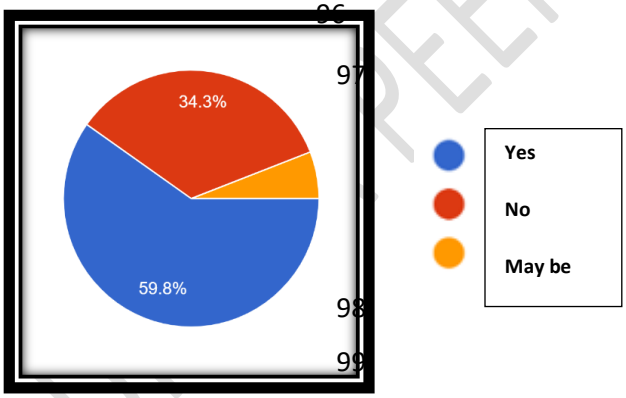

Figure 2:Do you feel tooth loss is due to periodontitis ?

3.Yes, consulting a specialist is required when bad breath or mobile teeth are noted. In this study, 63.2% of participants expressed a positive attitude toward seeking periodontal treatment, while 29.3% disagreed (Figure 3).

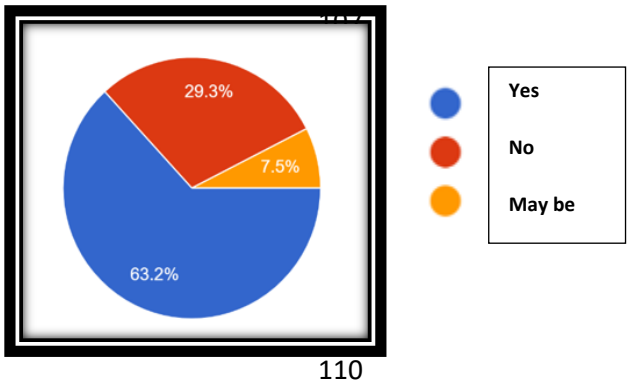

Figure 3:Consulting dental specialist required when you notice a mobile tooth or bad breath?

4.Yes, diabetes increases the risk of gum disease. Awareness regarding the link between diabetes and periodontal disease was pooronly 27.5% of respondents identified diabetes as a risk factor, while 63% disagreed (Figure 4).

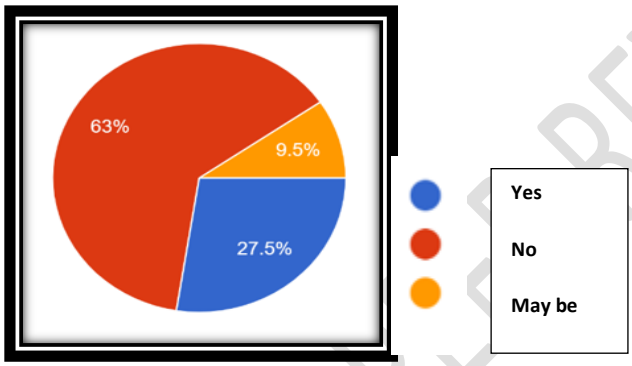

Figure 4 :Do you feel that diabetesincrease your risk of gumdisease?

5.Yes, swelling of the gums can be caused by medication. Knowledge about drug-induced gingival enlargement was limited, with only 27.5% of respondents reporting awareness, compared to 61.4% who were unaware (Figure 5).

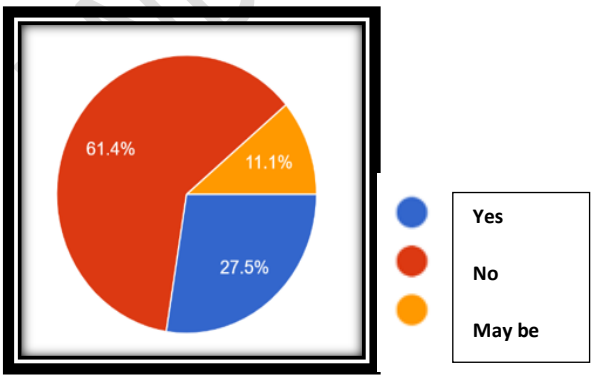

Figure 5: Do you feel that swelling of gums can be caused by certain medications?

6.Yes, smoking and tobacco chewing aggravate gum disease. Awareness of the relationship between these habits and periodontal disease was moderate, with 61.4% of respondents recognizing the risk, while 28.4% disagreed (Figure 6).

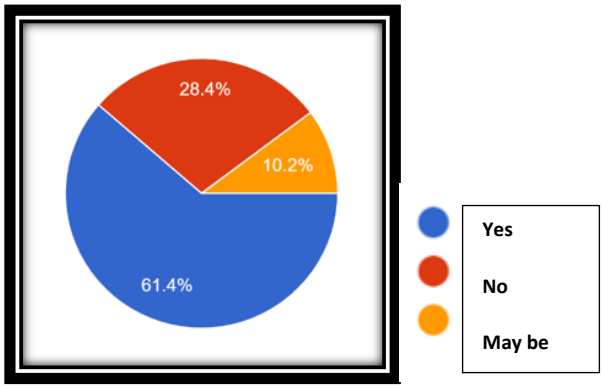

Figure 6:Do you feel that smoking, tobacco chewing canaggravate gum disease?

Awareness of Periodontal Therapy:

7.Yes, early gum therapy helps to reduce tooth movement. When questioned about preventive periodontal care, only 29.5% of respondents agreed that it was essential, whereas 59.5% disagreed (Figure 7)

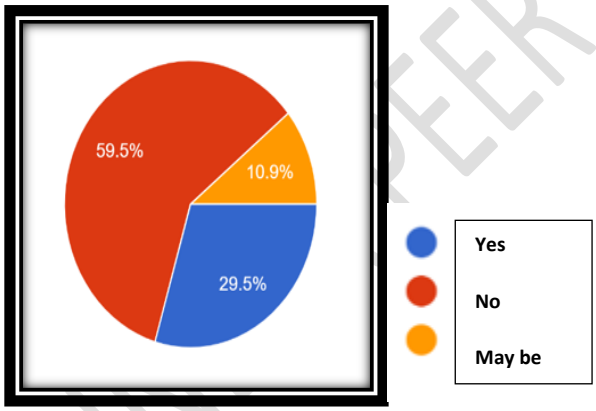

Figure7: Do you feel that early gum therapy can help for reduction of tooth movement?

8.No, scaling does not contribute to tooth substance loss. A notable misconception was observed, with 68.6% of respondents believing that scaling leads to tooth loss, highlighting the persistence of myths related to routine dental procedures (Figure 8).

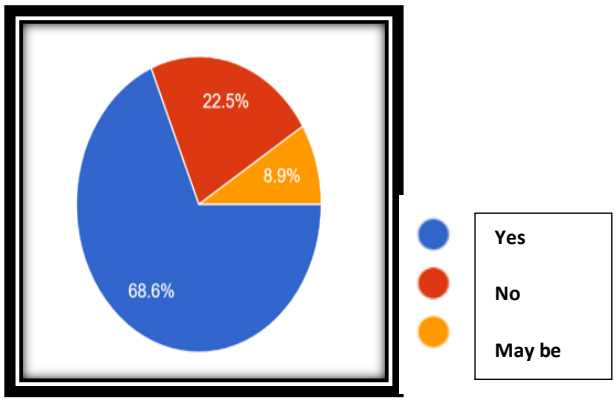

Figure 8:Do you think scaling can contribute to tooth substance loss?

9. Yes, lasers are used in dental procedures. Awareness of laser periodontal treatment options was generally poor, with only 24.5% of respondents reporting familiarity with laser therapy (Figure 9).

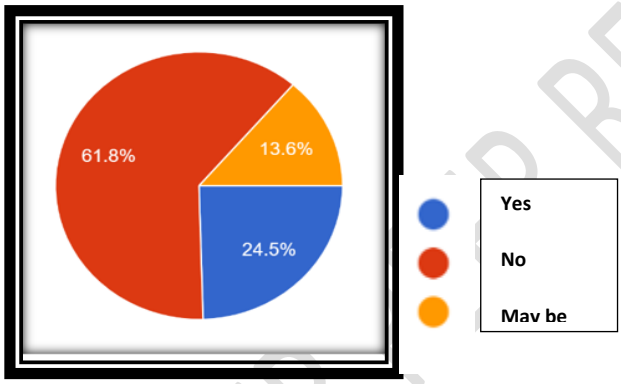

Figure 9:Do you know that for dentalprocedure new technologies like laser are being use?

10. Yes, smile design can be achieved through esthetic periodontal surgery. However, only 22.7% of respondents were aware of cosmetic periodontal procedures (Figure 10).

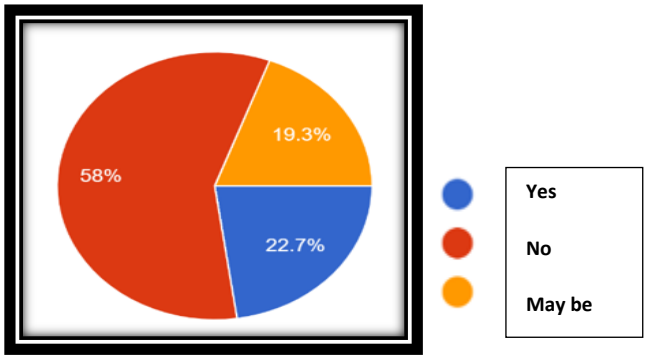

Figure 10 :Can smile design can be achieved by esthetic periodontal surgery?

11. Yes, bone graft materials are used for bone regeneration. However, only 17.5% of respondents recognized that regenerative procedures can be used in periodontal therapy (Figure 11).

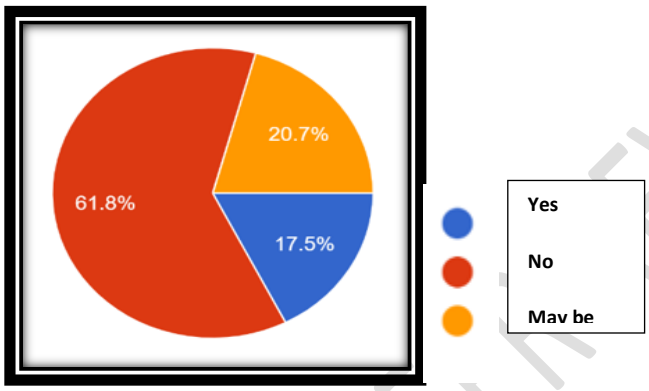

Figure 11:Do you know that bone graft material use for regeneration of bone?

12. Yes, systemic antibiotics can be delivered locally in the gums. However, only 16.6% of respondents were aware of the use of localized antibiotic delivery in periodontal therapy (Figure 12).

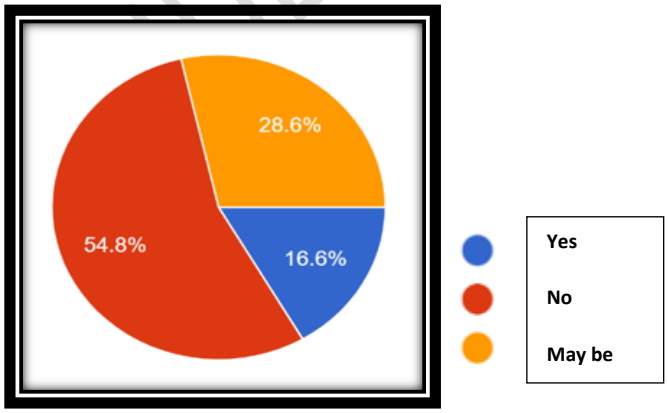

Figure 12:Are you aware that systemic antibiotic can be delivered locally in your gum?

13. Yes, dental implants are used for the replacement of teeth. Among the respondents, 54.8% recognized the use of implants for tooth replacement, while 9.3% had no knowledge about dental implants.

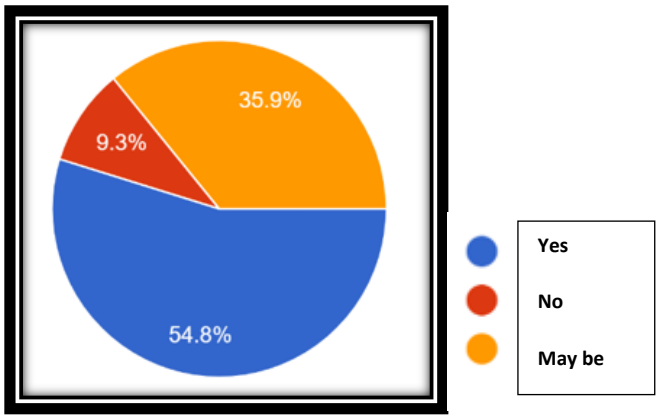

Figure 13: Are you aware that dental implants are used forreplacement of your tooth?

Comparative evaluation of awareness regarding periodontal disease and periodontal treatment:

On average, 50% of participants demonstrated correct knowledge regarding periodontal disease, while only 27% exhibited accurate knowledge about periodontal treatment modalities (Figure 14). Wrong knowledge is more common about periodontal therapy than about periodontal disease. Right knowledge is more common about periodontal disease than about periodontal therapy. This substantial gap underscores the need for improved patient education and counselling by dental professionals.

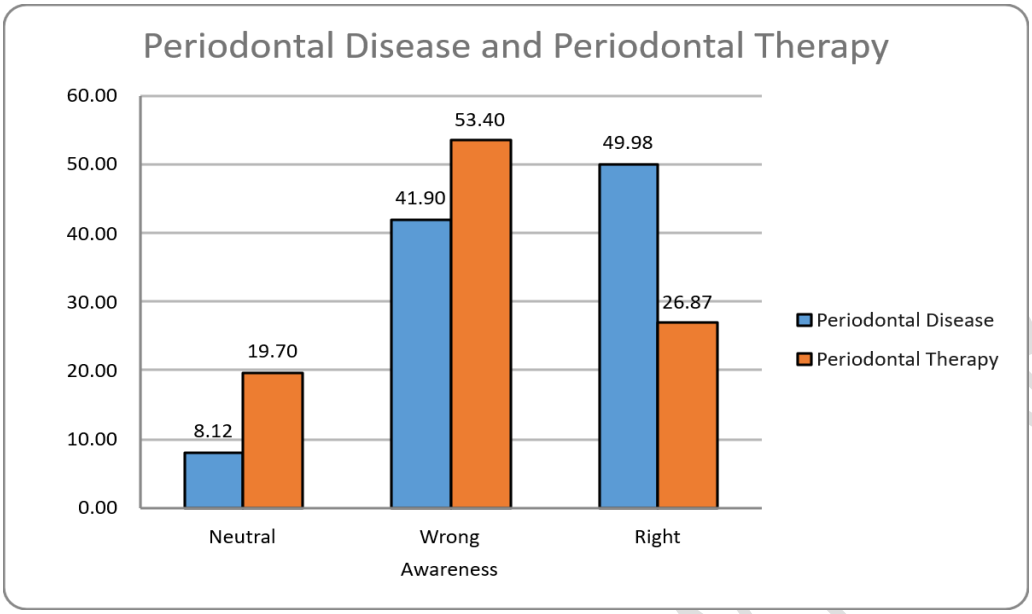

Figure 14: Comparative evaluation of awareness regarding periodontal disease and periodontal treatment:

Discussion :

The present survey highlights important insights into awareness and perceptions of periodontal disease and its management among patients visiting AMC Dental College. The findings show that while participants demonstrated good understanding of basic signs and consequences of periodontal disease, such as bleeding gums and tooth loss, their awareness about underlying risk factors and advanced treatment options was limited. In India, periodontitis is highly prevalent. According to the National Oral Health Survey and Fluoride Mapping 2002–2003, approximately 85% of adults over 35 years exhibited some form of periodontal disease. More recent estimates suggest that moderate to severe periodontitis affects 40–60% of Indian adults, with severe forms seen in about 10–15% (Sharma et al., 2016)[(2).] Despite this high burden, public understanding remains inadequate.

A notable proportion of respondents in this survey recognized bleeding gums as an early sign of periodontal disease and were aware that untreated gum problems could lead to tooth mobility and eventual tooth loss. This finding is in agreement with previous studies reporting moderate awareness of visible symptoms (Prasad et al., 2014).[(7)] However, widespread misconceptions persist, particularly the belief that scaling causes permanent damage to tooth structure—a myth endorsed by 68.6% of participants in this study. Similar misconceptions have been documented by Kumar et al. (2013) [(8)] who found that nearly 70% of patients believed scaling would weaken teeth or remove enamel. Such beliefs are significant barriers to timely treatment and contribute to disease progression. Similar to the findings of previous studies conducted in North India and West Godavari, where over 70% of participants believed that scaling weakens teeth or causes mobility, this survey also revealed that 68.6% of patients shared this misconception, emphasizing the persistence of this myth across different populations in India and the urgent need for targeted educational interventions.[(9)(10)]

Additionally, awareness of systemic associations of periodontal disease was poor. Most participants did not recognize diabetes as a significant risk factor. This gap is concerning given the established bidirectional link between diabetes and periodontitis (Mealey & Oates, 2006)[(12).]Patients with diabetes are

at higher risk of severe periodontal destruction, and poor periodontal health can, in turn, compromise glycemic control.Knowledge about modern periodontal therapies, including laser treatment, bone grafting, and localized antimicrobial delivery, was also found to be inadequate. These findings are in line with previous reports indicating very low public awareness of advanced treatment modalities (Gupta et al., 2013). [(11)]Limited exposure, perceived high cost, and lack of communication by dental professionals contribute to this deficit.

Overall, the results of this survey underscore the urgent need for targeted educational interventions to address misconceptions and improve knowledge about periodontal disease and its management. Dental professionals play a critical role in counseling patients about the importance of preventive care, the safety and necessity of scaling, the systemic impacts of periodontal infection, and the availability of effective treatment options. Integrating oral health education into primary care, leveraging community outreach, and using culturally appropriate, easy-to-understand materials may significantly improve awareness and acceptance of periodontal therapy.

Conclusion:

These findings underscore the need for targeted oral health education initiatives to address specific knowledge gaps and misconceptions. Improving patient understanding of periodontal disease and available therapies will be essential to enhance prevention, encourage acceptance of treatment, and ultimately improve periodontal health outcomes. To improve awareness, chairside education using simple language and visuals should be provided, along with displaying posters in clinics and community centers, implementing school-based oral health programs, and distributing local language videos and pamphlets that emphasize the importance of early consultation.

Acknowledgments:

We sincerely thank our HOD, Dr. Bela Dave, for her guidance and support. We are also grateful to interns, and all the patients who participated in this study for their cooperation.

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