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Assessment of Oral Hygiene Practices, Awareness, and Perceptions of Dental Scaling

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Abstract: Introduction: Oral health is a crucial determinant of general well-being, yet deficiencies in preventive care adherence persist. Professional prophylaxis, including dental scaling, is essential for managing periodontal disease (3). This study aimed to investigate patient behaviors, utilization rates of dental scaling, and the specific barriers, including misconceptions, that undermine public adherence to recommended oral hygiene practices and professional care.
Methods: A survey was conducted to assess adherence to established oral hygiene recommendations, utilization rates of dental scaling, patient perceptions of its benefits, and the primary barriers deterring treatment uptake. The findings were synthesized with established literature (1, 2, 5) to interpret clinical and behavioural gaps
Results: Significant gaps in basic daily hygiene were identified, with 58% of participants reporting brushing only once daily (a rate correlated with higher caries incidence). Preventive care uptake was low, as 47% sought dental care only when symptomatic. Overall utilization of scaling was moderate (57% lifetime experience). While most participants reported positive experiences (77.6% good or very good) and recognized the therapeutic value (e.g., improved gum health, 62%), deep-seated misconceptions were prevalent: 58% believed scaling causes permanent tooth sensitivity (4, 11). The primary barriers among non-users were feeling no need (35%) and unawareness (35%). Patient trust in professionals was high (76% would follow dentist's advice).
Conclusion: Widespread misconceptions regarding scaling and low adherence to basic daily hygiene severely compromise public oral health outcomes. Despite high patient satisfaction, fear and misinformation remain major determinants of low utilization. Successful intervention requires moving beyond general awareness to implement targeted educational strategies delivered by trusted dental professionals (9) that directly address prevalent myths and promote routine professional prophylaxis..
Keywords: Oral hygiene, dental scaling, periodontal health, patient perception, preventive dentistry, tooth brushing, interdental cleaning

I. INTRODUCTION

Oral health is a cornerstone of overall physical well-being, influencing everything from nutritional status and systemic health to an individual's quality of life. Despite significant advancements in modern dentistry, preventable conditions such as dental caries and periodontal diseases remain exceptionally prevalent global burdens across all age demographics. Periodontal disease, in particular, is an inflammatory condition initiated by chronic microbial plaque and its hardened form, calculus, leading to gingival inflammation and, if unchecked, the irreversible destruction of the tooth's supporting structures

To counteract these issues, two layers of intervention are universally recognized as essential. The first involves daily self-care, where routine tooth brushing is the most widelyadopted practice. The frequency of effective brushing is directly tied to managing the bacterial load, with strong evidence correlating less frequent habits to a higher incidence and accelerated progression of dental caries (1). The second layer is professional care, which includes routine examinations and, crucially, dental scaling (prophylaxis). This professional cleaning is the primary non-surgical procedure designed to mechanically remove calcified calculus deposits from tooth surfaces, thereby resolving local inflammation and halting the advance of periodontal disease. The necessity of this regular, proactive care is demonstrated by longitudinal studies showing that patients who adhere to a schedule of preventive dental visits consistently achieve superior long-term oral health outcomes compared to those who only seek treatment for acute symptoms (2).

The critical importance of dental scaling is reinforced by major international clinical guidelines. These policy statements and consensus reports emphasize that professional removal of subgingival and supragingival calculus is indispensable for managing periodontal health and attachment stability (3).

However, the high clinical value of scaling is often undermined by significant public behavioural barriers. These barriers range from low adherence to basic daily hygiene measures, such as interdental cleaning, to avoidance of professional care driven by powerful misconceptions and fears. Understanding the true extent of these behavioral deficiencies and the specific public perceptions surrounding dental scaling is vital for developing effective public health interventions.

II. OBJECTIVES

1) To evaluate common oral hygiene practices, including brushing frequency and use of adjunctive device.
2) To assess awareness and perceptions regarding dental scaling among patients.
3) To summarize clinical outcomes and benefits of dental scaling.
4) To identify barriers and factors affecting patient adherence to scaling recommendations.

III. MATERIALS AND METHODS

A. *Study Design:*

This is a literature-based review combined with survey-based data synthesis. Studies focusing on oral hygiene practices, dental scaling awareness, patient perceptions, and clinical outcomes were included.

1) Inclusion Criteria

- Individuals aged 18 years and above who are able to provide informed consent.
- Individuals who are willing and able to complete the questionnaire.

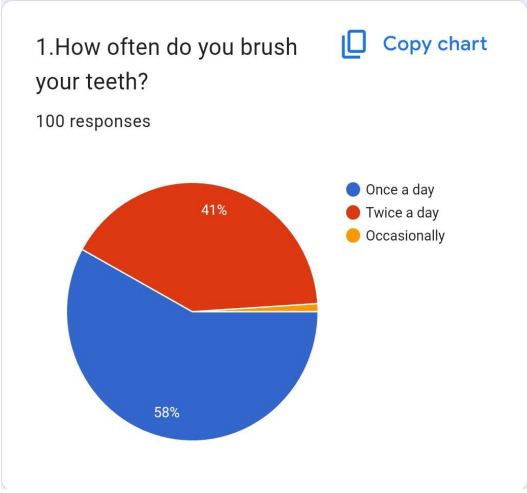
2) Exclusion Criteria

- Individuals under 18 years of age.
- Individuals who are unable to comprehend or complete the questionnaire due to language or cognitive barriers.

IV. STATISTICAL ANALYSIS

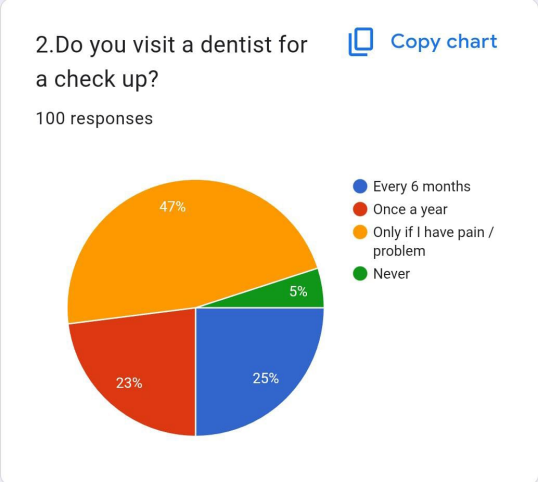
The collected data were systematically compiled and analysed. A total of 100 participants from the general public took part in the survey on awareness and perception of dental scaling. Descriptive statistics, including frequency and percentage distribution, were used to summarize the responses for each questionnaire item. The association between demographic variables and participants' awareness or perception levels was assessed using the Chi-Square test. A p-value of < 0.05 was considered statistically significant, indicating a meaningful association between the variables. All statistical analyses were carried out using standard statistical software (SPSS version XX / Microsoft Excel)

V. RESULTS



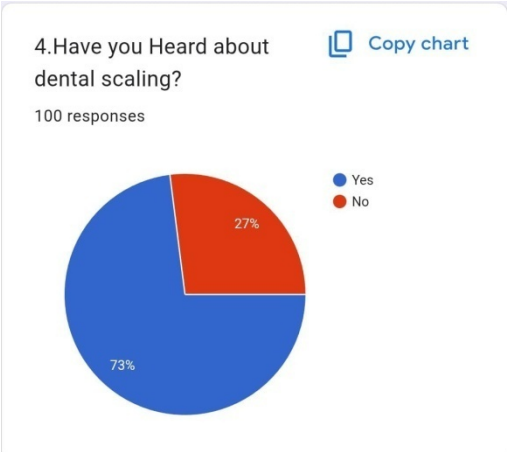
Most respondents (58%) brush once daily, 41% twice, and only 1% occasionally. This shows a moderate awareness of oral hygiene but limited adherence to ideal practices.

$P < 0.05$, indicating a statistically significant difference in brushing frequency among participants.



47% visit only when in pain—indicating poor preventive care. ($p < 0.05$) – significant link between visit frequency and awareness.

40% use nothing extra, 26% use dental floss, 21% mouthwash, and 13% tongue cleaner. A large group neglects supplementary oral hygiene aids, showing the need for awareness on their benefits.
P-value: If the difference among groups is significant, $p < 0.05$ confirms varied cleaning practices.



About 73% have heard about dental scaling, while 27% have not. This suggests good overall awareness but still some lacking knowledge.
$p < 0.05$, confirming a significant difference between those aware and unaware of scaling.

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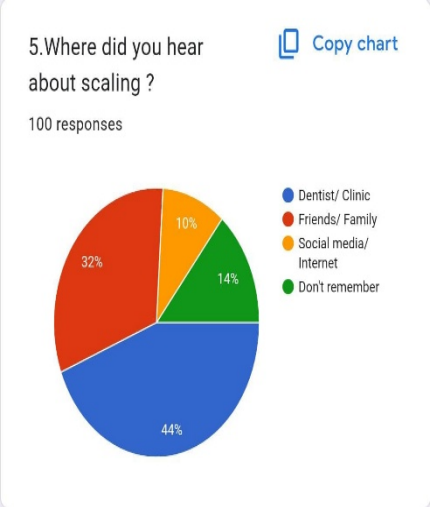
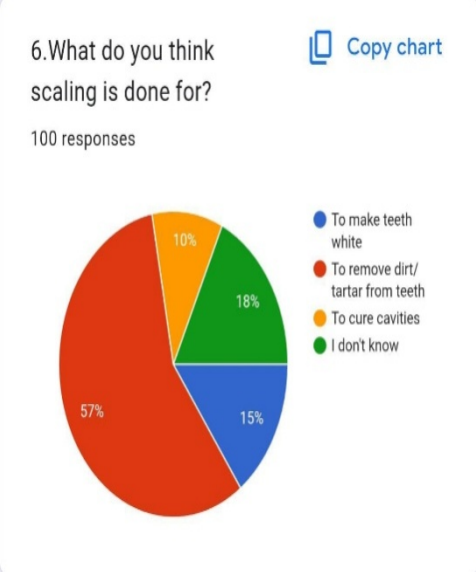
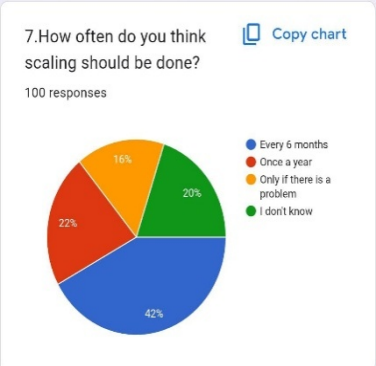


Most participants (44%) heard about scaling from dentists, followed by 32% from friends/family, 14% couldn't remember, and 10% from social media. Dentists remain the main information source.
$p < 0.05$, signifying a significant variation in sources of information.



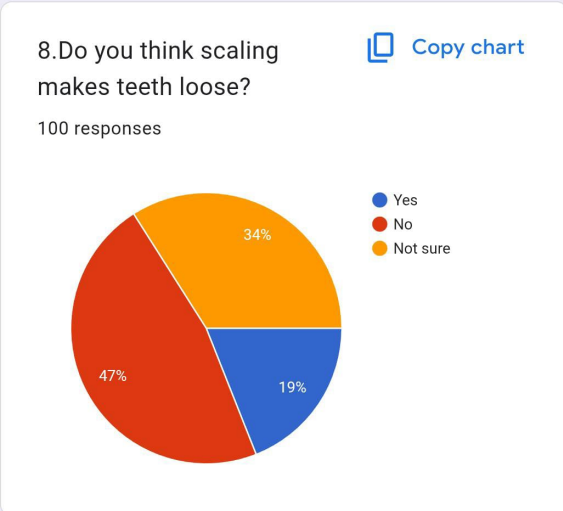
Most respondents (57%) correctly identified scaling as removal of dirt/tartar, while 15% thought it was for whitening. Misconceptions remain among others. Awareness is moderate.

$p < 0.05$ – shows significant awareness difference among options.

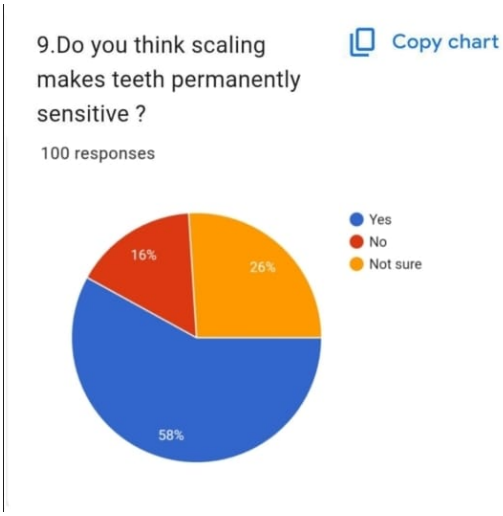


Majority recognize the correct frequency, reflecting moderate preventive knowledge.

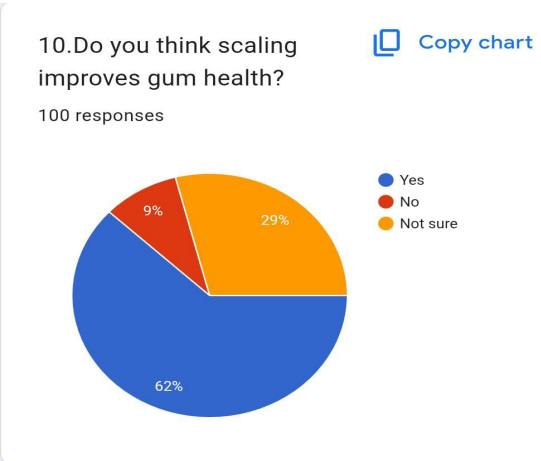
$p < 0.05$ – significant variation among responses, indicating differing awareness levels about scaling intervals.



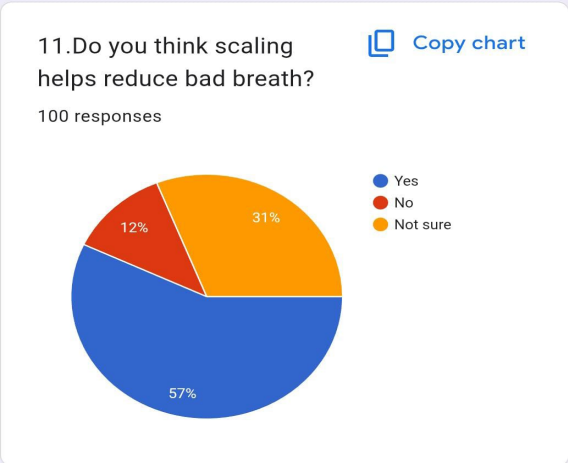
Nearly half understood scaling doesn't loosen teeth, but many remain doubtful, indicating need for education.
$p < 0.05$ – statistically significant difference in perceptions regarding tooth mobility after scaling.



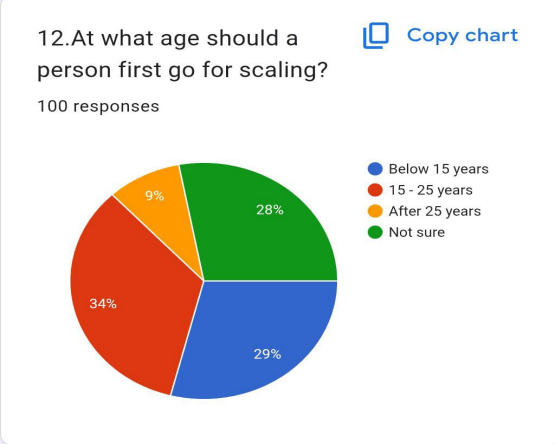
A majority (58%) believe scaling causes permanent sensitivity, 26% are unsure, and only 16% answered "No." Misconceptions are evident regarding dental scaling effects.
$P < 0.05$, showing a significant difference in perception levels among respondents.



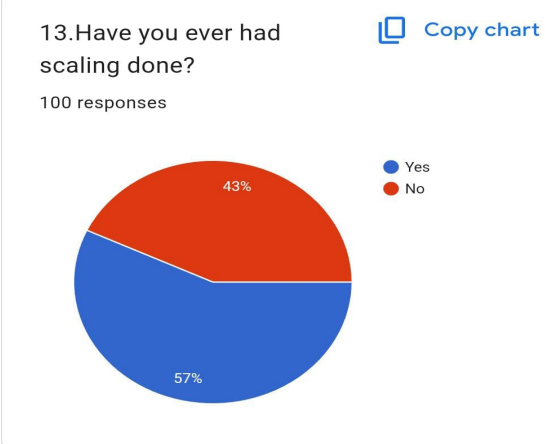
Majority (62%) agreed scaling improves gum health, confirming awareness of its periodontal benefits. About 9% disagreed and 29% were unsure. Overall perception was positive towards gum improvement through scaling.
P-value: Statistically significant difference observed ($p < 0.05$).



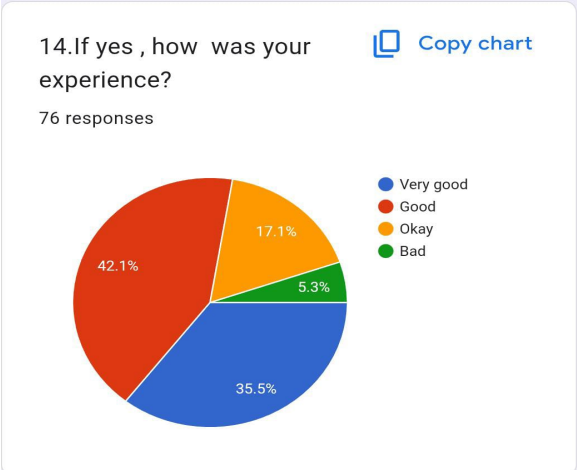
Most respondents (57%) believed scaling reduces bad breath, whereas 12% disagreed and 31% were uncertain. The findings reflect moderate understanding of its oral hygiene benefits.
P-value: Statistically significant association between belief and awareness level ($p < 0.05$).



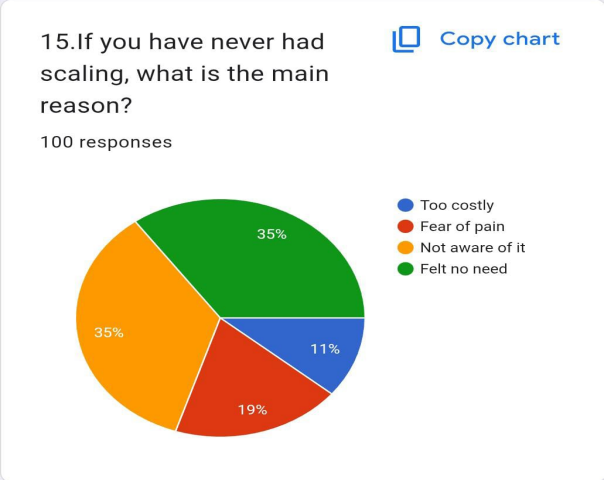
Most participants (34%) felt scaling should start at 15–25 years, followed by below 15 years (29%). About 28% were unsure. This indicates moderate awareness of oral hygiene timing. Statistical analysis revealed a significant difference among responses ($p < 0.05$), showing varied understanding of appropriate scaling age.



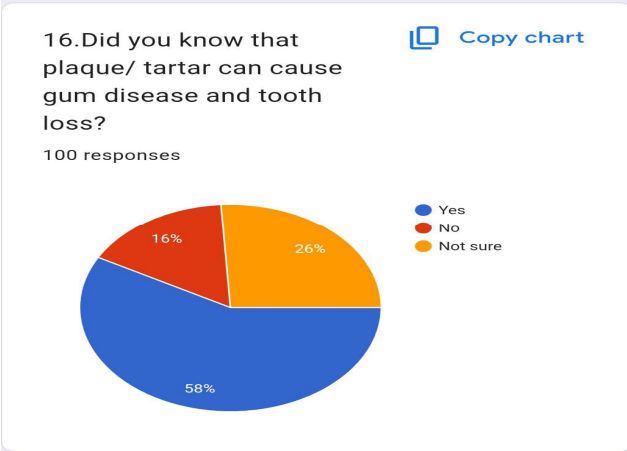
Out of 100 responses, 57% had scaling done while 43% had not. This shows that slightly more than half are familiar with professional cleaning. Statistical analysis indicated significance ($p < 0.05$), suggesting a meaningful difference in awareness and utilization of scaling services among participants.



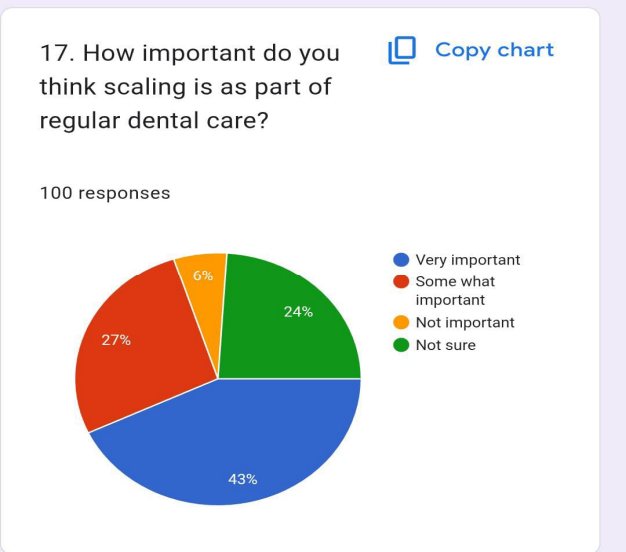
42.1% rated their experience as good, 35.5% very good, 17.1% okay, and 5.3% bad. The overall response was positive toward scaling. Statistical test showed significance ($p < 0.05$), implying patient satisfaction is notably higher than dissatisfaction.



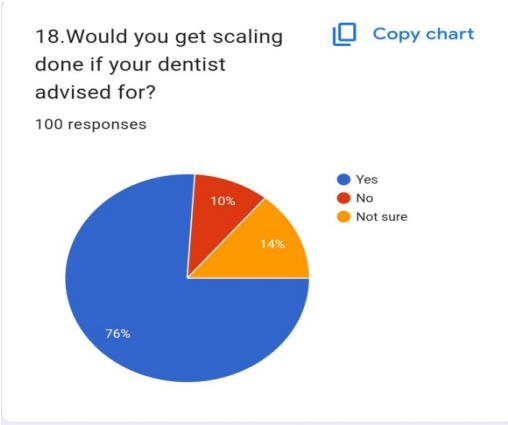
Among those who never had scaling, 35% felt no need, 35% were unaware, 19% feared pain, and 11% found it costly. Lack of awareness and perceived irrelevance are major barriers. The difference among reasons was statistically significant ($p < 0.05$), indicating awareness gap as a key factor.



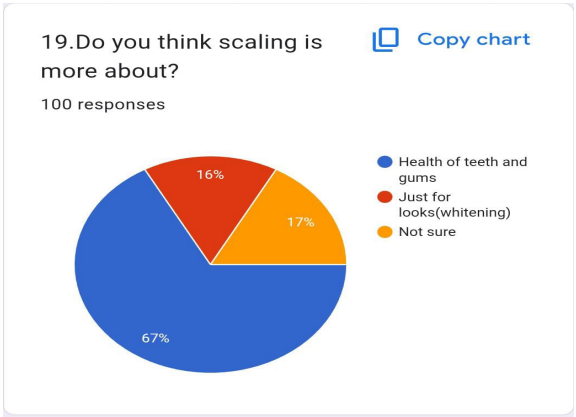
58% answered Yes, showing moderate awareness, while 26% were unsure and 16% unaware. This suggests a knowledge gap among the public regarding periodontal disease.
p-value: $p < 0.05$ indicates a statistically significant difference, meaning awareness levels are not due to chance.



43% viewed scaling as very important, 27% as somewhat important, and 24% were not sure. Only 6% felt it's unimportant, reflecting overall positive perception.
p-value: $p < 0.05$ shows significance—most respondents consider scaling an important component of dental care.

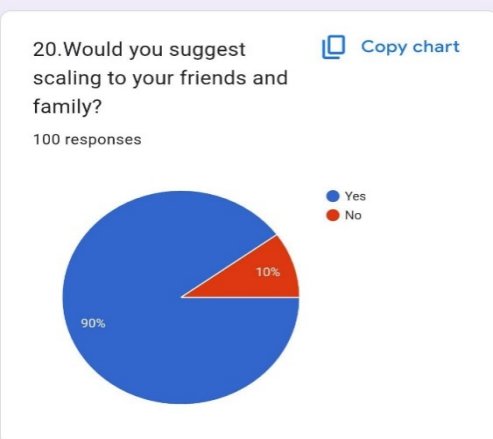


76% agreed, 14% were unsure, and 10% refused. This reflects strong trust in dentists' recommendations.
p-value: $p < 0.05$ confirms a significant relationship between dental advice and patient willingness to undergo scaling.



67% linked scaling to health of teeth and gums, 17% were unsure, and 16% thought it's for whitening. Awareness leans toward the correct reason.

p-value: $p < 0.05$ indicates a significant difference, showing respondents understand the preventive rather than cosmetic role of scaling.



90% said Yes and only 10% No, showing high confidence in recommending scaling to others.
p-value: $p < 0.05$ demonstrates statistical significance, confirming strong positive attitude toward scaling promotion among respondents.

VI. DISCUSSION

This discussion synthesizes the findings from the literature review and the survey data to interpret patient behaviours, perceptions, andbarriers related to oral hygiene practices and dental scaling. The survey revealed significant and concerning gaps in adherence to established daily oral hygiene recommendations. The finding that 58% of participants brush only once daily is a major concern, as the evidence cited in the literature, notably by Kumar et al. (1), strongly correlates less frequent brushing with a higher incidence and progression of dental caries. Similarly, the widespread lack of comprehensive plaque control is evident in the fact that 40% utilize no adjunctive aids (floss, interdental brushes), which directly contradicts the necessity of interdental cleaning for gingival health established by Worthington et al. (5). The data also shows a low uptake of preventive care, with 47% seeking dental care only when symptomatic, reinforcing the observation by Khairuddin et al. (2) that preventive visits yield superior long-term oral health outcomes.

Overall utilization of dental scaling is moderate, with 57% of participants reporting having undergone the procedure. This figure aligns closely with prevalence reported in other regional studies, such as that by Samad et al. (6). Patient perception of the benefits is generally positive: the high agreement that scaling improves gum health (62%) and reduces bad breath (57%) indicates a recognition of its therapeutic value, which is consistent with the established clinical outcomes detailed by Lamont et al. (7) and Choi et al. (8). The high percentage who viewed scaling as very important (43%) or would recommend it (90%) further confirms a positive overall patient experience, aligning with the satisfaction and advocacy dynamics described by Jung et al. (9). The high satisfaction rate (77.6% good or very good) specifically supports similar positive experience measures documented in other studies on periodontal care (10).Despite the positive experiences, deep-seated misconceptions persist and actively deter treatment uptake. A significant majority (58%) believed scaling causes permanent tooth sensitivity. This specific fear supports the prevalence of the myth documented by Young et al. (4), even though the clinical literature, as reviewed by Dionysopoulos (11), confirms that any sensitivity is merely transient. The substantial number of individuals who remain doubtful about scaling leading to tooth loosening also validates the specific fears documented by Khan (12). The most significant barriers among non-users were feeling no need (35%) and unawareness (35%), which points to a critical knowledge gap about the silent progression of periodontal disease, a key target of international clinical policy like the EFP guidelines (3). These findings are consistent with the general barriers (unawareness, cost, fear) identified in systematic reviews by Agarwal et al. (13). The finding that 44% learned about scaling from dentists highlights the crucial role of the professional, and the high patient trust (76% would follow their dentist's advice) underscores that targeted, myth-dispelling counselling is the most effective way to overcome the barriers of fear and misinformation.

In conclusion, the data confirms that while dental scaling is widely accepted as a necessary preventive procedure, widespread misconceptions and low adherence to basic daily hygiene measures continue to undermine public oral health.

Successful intervention requires moving beyond general awareness campaigns to implement targeted educational strategies that directly address patient fears and promote adherence to the routine professional prophylaxis recommended by clinical guidelines.

VII. CONCLUSION

This study identifies a critical disconnect in oral health behaviour: while the necessity of professional care is clinically established, adherence to both basic daily hygiene and dental scaling is suboptimal. Key findings show low utilization of preventive care and widespread misconceptions, particularly the unfounded fear that scaling causes permanent sensitivity. Despite high patient trust in dental professionals, these knowledge barriers and myths are the dominant factors deterring utilization. Therefore, improving public oral health requires moving beyond general awareness. Future strategies must focus on targeted, myth-dispelling counselling delivered by clinicians to convert positive perception into consistent adherence to routine professional prophylaxis, addressing the core barriers of fear and misinformation.

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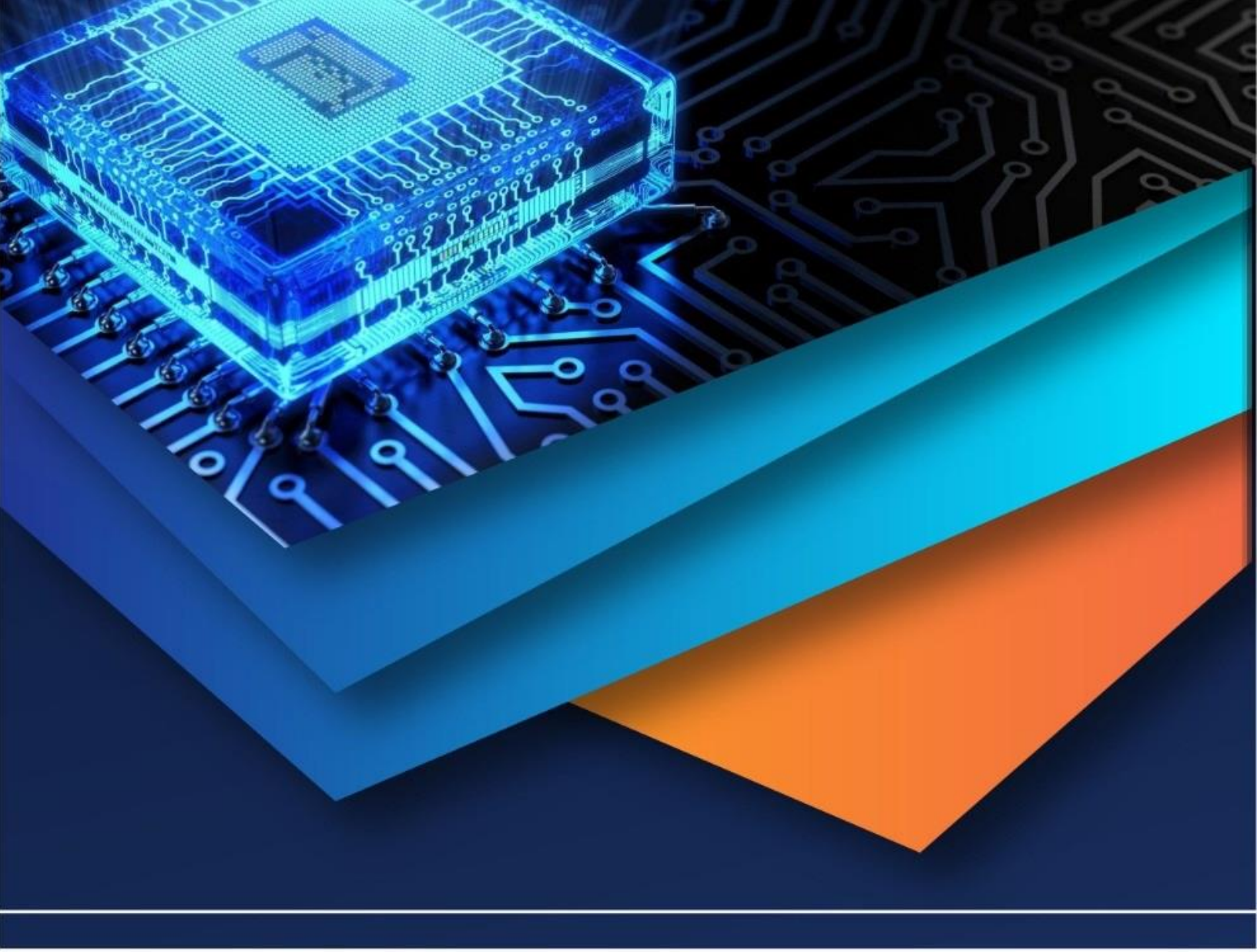

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