



ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICE TOWARDS PERIODONTAL TREATMENT PROCEDURES AMONG GENERAL DENTISTS IN BENGALURU

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Abstract:

Aim: The aim of the present study was to evaluate the knowledge, attitude and practice towards the treatment of periodontal disease among general dentists.

Materials and methods: The study involved 150 general dentists from Bangalore. KAP study using a questionnaire was conducted with a total of 15 questions, and the questions were divided under 3 domains assessing the knowledge, attitude, and practice towards periodontal treatment procedures.

Results: Out of the 150 dentists who received the questionnaire, 100% returned properly filled forms with a mean value of 12.2 in knowledge, 15.6 in attitude and 10.2 in the practice. With pearson correlation coefficient, it is understood that there is positive relationship between the knowledge that the dentists possess and their attitude towards periodontal treatment procedures. But, the correlation between knowledge and practice is not significant, however, on the negative side.

Conclusion: General dentists have good knowledge and attitude towards periodontal treatment procedures whereas, their practice towards periodontal treatment procedure is still truncated. Hence, the oral perception of general dentists towards periodontal treatment needs to be gauged for betterment of their service.

Keywords: Dentists, knowledge, periodontal diseases

Introduction:

Periodontology is a branch in dentistry where newer innovation and concepts are changing the outlook of conventional periodontal therapy. WHO reports that 15% - 30% tooth loss is developed in adults and that an early diagnosis with immediate enactment of treatment can succeed in prevention and management of periodontal diseases¹. Scope of periodontology is progressing in all stages from diagnosis, to the use of growth factors and regenerative treatments. In order to achieve best therapeutic results and patient outcome, proper diagnosis and timely referral by general dentist to periodontist is require². General dentist should have a thorough knowledge in diagnosing periodontal diseases for a sound treatment plan. Hence, this survey aims to explore and evaluate the knowledge of diagnosis, treatment strategies and attitude of general dentists on periodontal treatment procedures.

Materials and Methods

A descriptive cross-sectional survey was conducted among 150 general dentists in Bengaluru, India. The survey tool employed was a self-administered questionnaire comprising of 15 multiple choice questions (Q1-Q15) based on Likert scale. The questionnaire is sectioned into 3 groups - knowledge -5, attitude -5, and practice - 5.

The questionnaire was designed based on worldwide reports about periodontal treatment procedures including differential diagnosis, patient management, dentist management and continuing education about oral hygiene.

Questionnaire copies were distributed to the general dentists and filled copies of the same were collected. The study was approved by Institutional Ethical Committee. Ethical clearance was obtained from institutional review board and participation was voluntary.

Statistical Analysis:

Data were analyzed using the Pearson’s correlation method. The participant responses were tabulated and depicted in percentage.

Results

Out of the 150 general dentists who received the questionnaire 100% returned properly filled forms, 51.3% of the participants had an accurate understanding about the clinical sign of gingival inflammation. Among general dentists 48.7% reported that Mucogingival defects can be evaluated by identifying gingival recession. 40% general dentists reported that Primary etiological factor of periodontal disease is dental plaque. (Table 1) (Figure1)

Regarding diagnosis technique, it appears from the response received that 28.70% of dentists suggested that the need for periodontal retreatment arises in their clinical practice although only 10% of them implemented referring patients to periodontist on their request. Around 58.70% agrees that general dentists should ask patients whether they have ever been diagnosed with periodontal disease (Table 2) (Figure 2)

With respect to management procedures, 15.3% of dentist recommend the use of amoxicillin for periodontal diseases. In terms of diagnosis, Out of 150 general dentists 54.70% believed that line of treatment for bleeding gums is scaling and root planning in which 58% of participants strongly agreed to perform full mouth scaling for patients showing signs of gingival or periodontal diseases. Majority of general dentists confirms furcation involvement by using naber’s probe and referred patients to periodontist for treating grade II mobility. (Table 3) (Figure 3)

With a correlation coefficient of 0.003 between knowledge and attitude, it is understood that there is positive relationship between the knowledge that the dentists possess and their attitude towards periodontal treatment procedures. But, the correlation between knowledge and practice is not significant, however, on the negative side. With a strong negative relationship being identified between attitudes carried by the sample in practicing the methods, we can understand that the negative attitude highly influences the practice methods of dentists (Table 4)

Table 1: Statistical data of response to knowledge-based questions

Question	Strongly Agree	Somewhat Agree	Agree/ Disagree	Somewhat Disagree	Strongly Disagree
Bleeding on probing from gingiva is the first clinical sign of gingival inflammation	51.30%	36.70%	12.00%	0.00%	0.00%
Primary etiological factor of periodontal disease is dental plaque	40.00%	35.30%	24.70%	0.00%	0.00%
Loss of attachment is the common cause of mobility.	10.00%	0.70%	14.70%	54.00%	20.70%
Furcation involvement of molars is checked by probing for vertical/horizontal bone loss.	8.00%	35.30%	17.30%	0.70%	38.70%
Mucogingival defects can be evaluated by identifying gingival recession.	48.70%	33.30%	14.00%	2.00%	2.00%

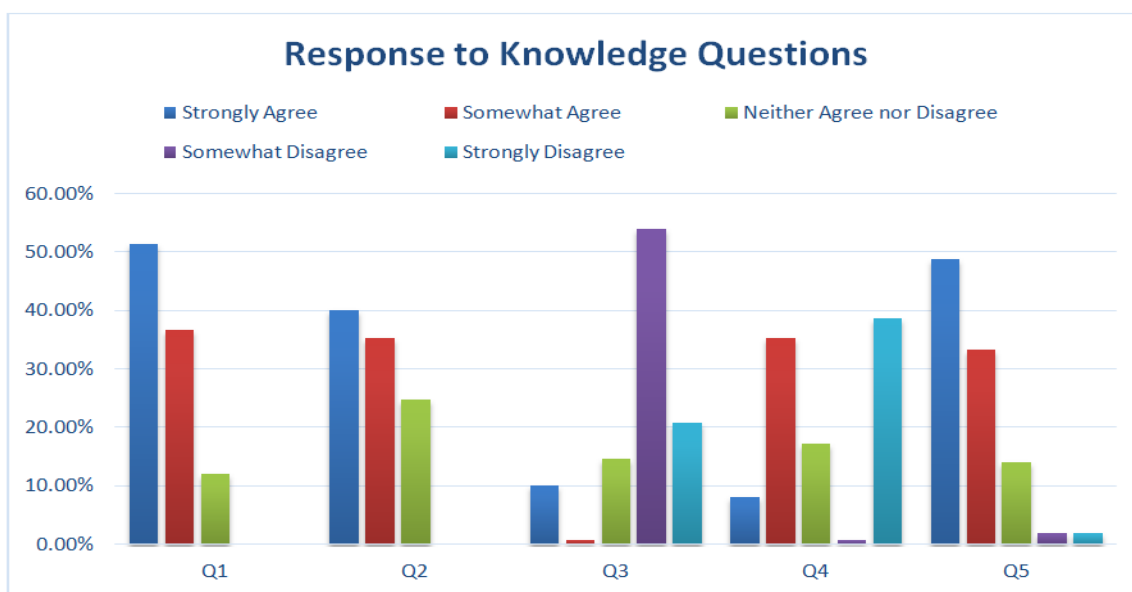


Figure 1: Dentists response to knowledge based-question

Table 2: Statistical data of response to attitude-based questions

Question	Strongly Agree	Somewhat Agree	Agree/ Disagree	Somewhat Disagree	Strongly Disagree
The need for periodontal retreatment arise in my clinical practice.	28.70%	38.70%	32.70%	0.00%	0.00%
Refer patients to periodontist only on their request.	10.00%	12.70%	11.30%	20.70%	45.30%
Discussing/ Evaluating periodontal status is peripheral to 'periodontist' role	12.00%	5.30%	14.00%	27.30%	41.30%
Recall your patients after 1 month of scaling and root planing.	1.30%	1.30%	14.70%	34.70%	48.00%
Ask patients whether they have ever been diagnosed with periodontal disease	58.70%	21.30%	11.30%	4.70%	4.00%

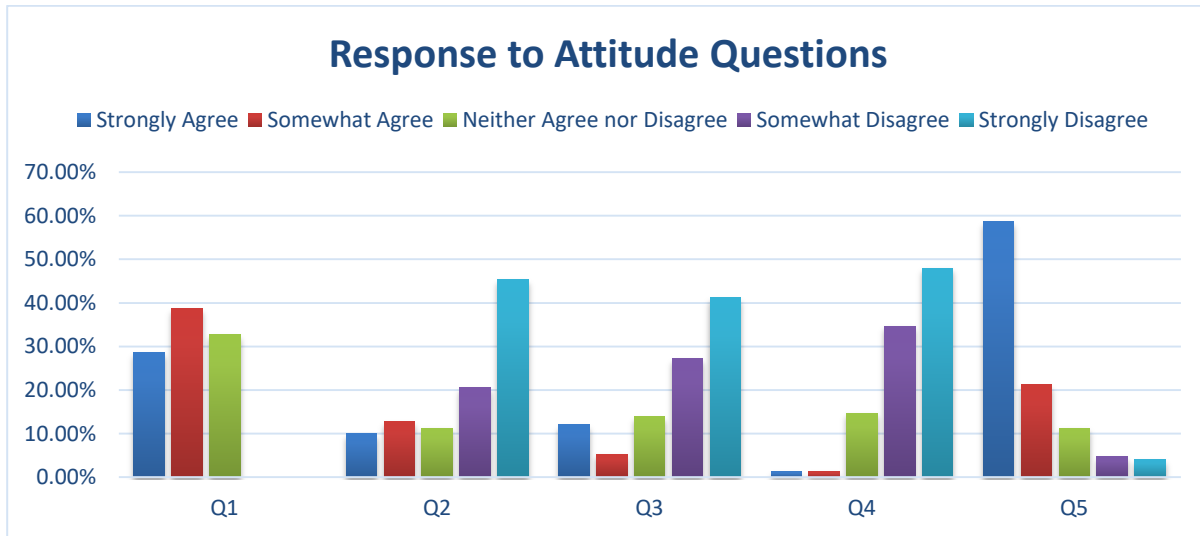


Figure 2: Dentists response to attitude-based questions

Table 3: Statistical data of response to practice-based questions

Question	Strongly Agree	Somewhat Agree	Agree/ Disagree	Somewhat Disagree	Strongly Disagree
Amoxicillin is preferred by most of the clinicians for periodontal diseases.	15.30%	20.00%	14.00%	14.70%	36.00%
My line of treatment for bleeding gums is scaling and root planing.	54.70%	24.00%	4.70%	5.30%	11.30%
Do full mouth scaling for patients showing signs of gingival or periodontal diseases.	58.00%	34.00%	8.00%	0.00%	0.00%
Refer patients to periodontist for treating grade II mobility.	48.70%	35.30%	16.00%	0.00%	0.00%
Diagnosis of furcation can be confirmed by probing with nabers probe.	39.30%	41.30%	19.30%	0.00%	0.00%

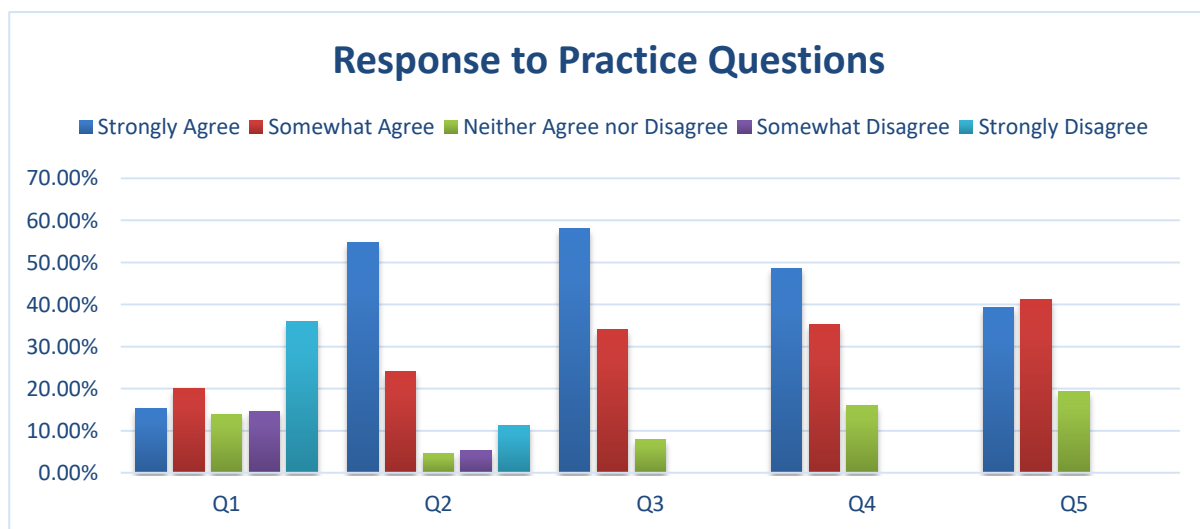


Figure 3: Dentists response to practice-based questions

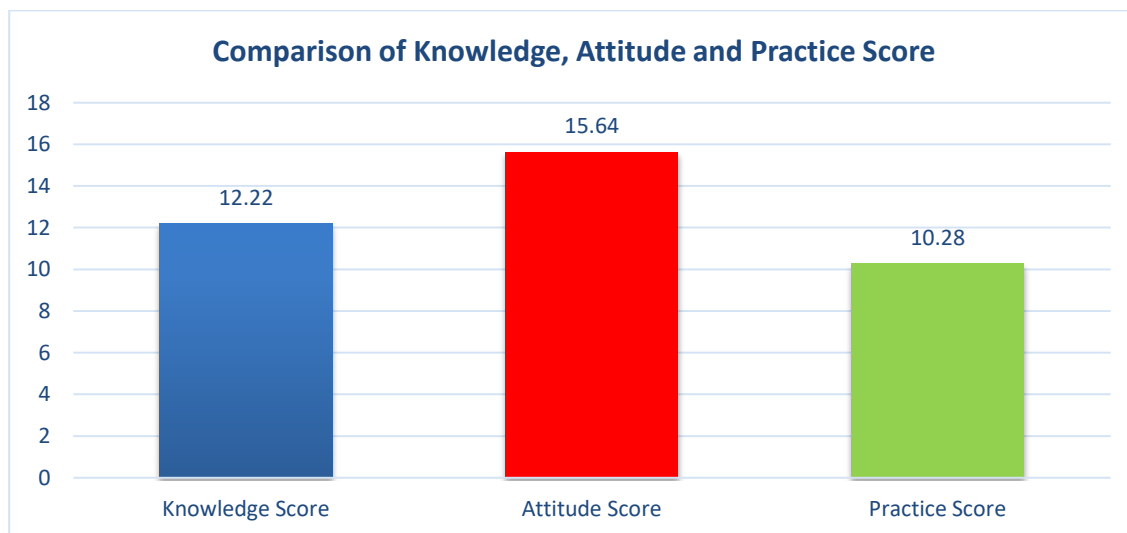


Figure 4: Comparison chart representing mean scores for knowledge, attitude and practice towards periodontal treatment procedures among general dentists

Table 4: Correlation among knowledge, attitude and practice towards periodontal treatment procedures among general dentists

Correlations			
		Attitude Score	Practice Score
Knowledge Score	Pearson Correlation	0.003	-0.156
	P value	0.969	0.056
Attitude Score	Pearson Correlation		-0.156
	P value		0.056

Discussion

Diagnosis is certainly the most critical component of all dental treatment. It is a process of collecting and interpreting the data in order to determine the problem and reason behind it, and ultimately directing the treatment plan. To become a successful clinician one should have the knowledge, attitude and practice to identify the dental problems at the earliest.

This questionnaire survey was aimed at general dentists, who interact with a large number of patients on daily basis. This study was conducted to understand the knowledge, attitude and practice towards periodontal treatment procedures among general dentists.

In the present study, Majority of the group (51.3%) accepted bleeding on probing as first clinical sign of inflammation which is similar to the study conducted by niklaus (2018)³ in which the clinical and histological data suggested bleeding on probing as an early sign of gingivitis than other visual signs of inflammation.

Among the general dentists participated (40%) in this study stated that dental plaque is a primary etiological factor for periodontal disease which corresponds to the study done by Newman *et al.* (1978)⁴ who reported that the formation of bacterial plaque is initiated by the adhesion of micro-

organisms to the tooth surface and is the first step in the development of periodontal infections.

Only 10% of the clinicians agreed loss of attachment is the common etiology for mobility and around 8% participants diagnosed furcation involvement by probing for vertical or horizontal bone loss. In contrast to this present study, Sathyamurthy (2018)⁵ showed 77.2% of the clinicians agreed loss of attachment is the etiology for mobility and around 72.8% of participants diagnosed furcation involvement by probing.

According to Kaldahl WB (1988)⁶ diagnosing furcation invasion is best accomplished using a combination of radiographs, periodontal probing with a curved explorer or Nabers probe for horizontal and vertical bone loss and bone sounding. In this study 80% of participants confirmed furcation involvement with nabers probe. A total of 48.70% responders stated that they evaluated mucogingival defects by identifying gingival recessions. Cortellini (2018)⁷ investigated that anatomic or morphologic characteristics of mucogingival lesions are likely to be associated with occurrence of gingival recession. About 28.7% of the study group reported the need for periodontal retreatment arise in their clinical practice. The periodontal examination plays an important role in determining gingival inflammation and

possible recurrences of diseases. Lee (2009)⁸ similarly noticed 22% of the clinicians were referring patients to periodontists.

In this study 48.7% of participants referred patients to periodontist for treating grade II mobility which was similar to a study conducted by Mali (2008)². The American Association of Periodontology guidelines was written to help dentists identify if and when a patient should be referred to a periodontist, which if followed would help to overcome the hinges in the referral patterns⁹.

In this study, participants who suggested to recall patients after 1 month of scaling and root planning was 1.3% from which it is understood that they had adequate knowledge about periodontal maintenance. Axelsson P (1981)¹⁰ stated that the participants in the *Recall* group should attend periodontal maintenance in every 2–3 months.

In the current study, almost 58.7% of participants admitted to ask patients whether they have ever been diagnosed with periodontal disease which is in contrast to the study done by Abid M (2018)¹¹. Around 15.3% of the participants suggested to prefer amoxicillin for periodontal diseases. Weinstein L (1975)¹² stated that penicillins other than amoxicillin have not shown to increase periodontal attachment levels. Majority of the participants agreed to perform scaling and root planning for gingival and periodontal diseases. According to Cobb CM (1996)¹³ Scaling and root planning has become the “gold standard” nonsurgical treatment of periodontitis.

This study comprises with a sample size of 150 that may not be satisfactorily representative of the entire population. Also diagnosing ability of the dentists were not assessed, possibly overlooking the ability of the dentist in answering the question. The questionnaire covered all aspects of periodontal diagnosis, treatment planning and periodontal practice for interdisciplinary dentistry. Interdisciplinary treatment in dentistry includes a trait of referral doctor, patient and specialist to coordinate diagnosis and treatment plan.

Conclusion

The current study group have good knowledge and attitude towards periodontal treatment procedures largely due to focus on them gaining sufficient theoretical knowledge whereas, their practice towards is still truncated. Hence, the oral perception of general dentists towards periodontal treatment needs to be gauged for betterment of their service.

References

1. Pihlstrom BL. Periodontal risk assessment, diagnosis and treatment planning. *Periodontol* 2000. 2001; 25:37-58.
2. Mali A, Mehta H. Perception of general dental practitioners toward periodontal treatment: A survey. *J Indian Soc Periodontol* 2008;12:4-7
3. Niklaus P Lang, P Mark. Periodontal health. *J Periodontol*.2018;89(1):S9–S16
4. Newman MG, Grinenco V, Weiner M, et al: Predominant microbiota associated with periodontal health in the aged. *J Periodontol*. 1978;49(11):553-9.
5. Sathyamurthy P, Padhye A, Gupta HS. Knowledge of diagnosis, treatment strategies, and opinions on periodontal treatment procedures among general dentists in an indian urban population: A questionnaire survey. *J Indian Assoc Public Health Dent*. 2018;16:62-71.
6. Kaldahl WB, Kalkwarf KL, Patil KD, Dyer JK, Bates RE Jr. Evaluation of four modalities of periodontal therapy. Mean probing depth, probing attachment level and recession changes. *J Periodontol*. 1988 Dec;59(12): 783-93.
7. Cortellini P, Bissada NF. Mucogingival conditions in the natural dentition: Narrative review, case definitions, and diagnostic considerations. *J Periodontol*. 2018;89(1):S204-S213.
8. Lee JH, Bennett DE, Richards PS, Inglehart MR. Periodontal referral patterns of general dentists: Lessons for dental education. *J Dent Educ* 2009;73:199-210.
9. Cherian DA, Dayakar MM, Thermadam TP. Rationale of referral of patients to a periodontist by general practitioners: Review with a cross-sectional survey. *J Interdiscip Dentistry* 2015;5:7-11.
10. Axelsson P, Lindhe J. The significance of maintenance care in the treatment of periodontal disease. *J Clin Periodontol*. 198;8(4):281-94
11. Abid M, Javed F. Knowledge of Medical Practitioners about Periodontal Diseases and Its Impact on Overall Health: A Cross-sectional Study. *Cureus*. 2018;10(5): e2694.
12. Weinstein L. Antimicrobial agents: penicillins and cephalosporins. In Goodman LS, Gilman A, editors: *The pharmacological Basis of Therapeutics*, ed 5, New York, 1975, Macmillan.
13. Cobb CM. Non-surgical pocket therapy: mechanical. *Ann Periodontol*. 1996;1(1):443-90.