

Original Article

Interest and satisfaction of dentists in practicing periodontics: A survey based on treatment of gingival recession

Vishakha Grover¹, Anoop Kapoor², Ranjan Malhotra¹, Sonia Sachdeva¹

¹Departments of Periodontology and Oral Implantology, National Dental College and Hospital, Gulabgarh, Derabassi, Dist. SAS Nagar, Mohali (Punjab),
²MN Dental College and Hospital, Solan, HP, India

ABSTRACT

Background: Gingival recession is a common occurrence and patients often report to dental clinic with associated problems such as root surface hypersensitivity, esthetic concerns, cervical root abrasions, and root caries that make it a concern for patients. Based upon the fact that gingival recession is an enigma for clinicians because of multitude of etiological factors and plethora of treatment modalities present for its treatment, a survey was conducted to assess knowledge as well as opinion about most common etiology, classification, and preferred treatment of gingival recession and to evaluate the interest and satisfaction of dentists in practicing periodontics.

Materials and Methods: Study design consisted of a cross-sectional online survey, conducted among dentists practicing in state of Punjab, India, in the month of April 2011. A structured online questionnaire consisting of 17 questions evaluating the interest of dentists in periodontics based on knowledge about gingival recession (most of them giving the possibility of multiple choices of answers) was sent to about 300 dentists. Pearson Chi-Square and Mann-Whitney U tests were used for statistical analysis of data collected. $P \leq 0.05$ was considered as statistically significant and $P \leq 0.01$ considered as highly significant.

Results: A greater proportion of periodontists had better knowledge about etiology ($P = 0.07$), classification ($P = 0.000$), and treatment of gingival recession ($P = 0.000$). A greater number of periodontists opted for the surgical modalities to correct the defects produced by gingival recession as compared to non-periodontists and had better interest ($P = 0.000$) and satisfaction ($P = 0.000$) in practicing periodontics.

Conclusion: The results elucidated that periodontists had better interest and satisfaction in practicing periodontics, and were more inclined towards surgical correction of gingival recession as compared to non-periodontists.

Key Words: Continuing dental education, general dentists, gingival recession, periodontics, referral

Received: December 2011
Accepted: February 2012

Address for correspondence:

Dr. Vishakha Grover,
Professor, Department
of Periodontology and
Oral Implantology,
National Dental College
and Hospital, Derabassi
Baba Farid University
of Dental Sciences,
Mohali (Punjab), India.
E-mail: vishakha_grover@
rediffmail.com

INTRODUCTION

The science of periodontology and its impact on periodontal practice is rapidly changing. New information consistent with cosmetic dental therapy is

ever increasing, extending beyond tooth replacement and tooth color to include the soft tissue component framing the dentition. Exciting opportunities and challenges for esthetic periodontal treatment are on the way for dental practitioners as periodontal therapy is being increasingly directed at esthetic outcomes for patients. Probably one of the most common esthetic concerns associated with periodontal tissues is gingival recession.

Recession of gingival tissues from root surfaces of teeth is a very visible dental change that is quite noticeable to the patients and may cause them to

Access this article online



Website: www.drj.ir

seek the advice of a dentist. The significance of any gingival recession may vary considerably depending on the etiology, extent and associated symptoms in each case. The etiology of condition is multifactorial commonly associated with underlying alveolar morphology, tooth brushing, mechanical trauma, and periodontal disease.^[1-4]

The patient's desire to improve esthetics is often mentioned as a major motive for intervention. Yet, in reviewing the pertinent literature, it has been noted by Zaher *et al.* (2005) that esthetic aspects have not been analyzed in comparative studies evaluating treatment of gingival recession.^[5]

General dental practitioners play an important role in the initial diagnosis and treatment of periodontal patients.^[6] For comprehensive periodontal treatment to achieve long-term clinical success, the re-evaluation and regular maintenance of the patient is required, which further needs the coordinated efforts of patient, general dental practitioner, and periodontist. The referral process in dentistry involves the mutual care and treatment of patient, shared between the referring doctor and the specialist to whom the patient has been referred. Many factors influence the decision to refer a patient for specialist care and support. Clinical, personal, and economic factors of the referring doctor and the specialist coupled with the patient's preferences and means make the referral process a complex entity in the everyday practice of dentistry.^[7]

The present study evaluated the knowledge, attitude, and interest of dentists, in practicing periodontics focusing specifically on their opinion regarding treatment of gingival recession.

MATERIALS AND METHODS

Study population

A cross-sectional online survey was conducted among 300 dentists practicing in state of Punjab, India, in the month of April 2011.

Study method

A structured online questionnaire was constructed on website www.my3q.com. The format of questionnaire is originally taken from questionnaire used in the study conducted by Zaher *et al.*^[5] Pre-testing of the questionnaire was done by initially mailing the questionnaire to about 10 dentists, feedback was taken from them on difficulty in interpretation of questions and any ambiguity for responses was

checked and questionnaire was modified accordingly. Questionnaire was then mailed to about 300 dentists including both periodontists and non-periodontists. The questionnaire consisted of 17 questions; most of them giving the possibility of multiple choices of answers [Appendix 1].

Statistical analysis

The data so obtained was compiled and analyzed using Statistical Package for Social Sciences (SPSS Inc., Chicago, IL, version 15.0 for windows). To describe the data means, medians and full ranges (min-max) were calculated for continuous measures and proportions for binary data. Because data differed significantly from a normal distribution as assessed using Kolmogorov-Smirnov test, non-parametric tests were used for checking differences between subgroups and finding correlations (Pearson Chi-Square and Mann-Whitney U test).

RESULTS

A total of 197 dentists out of 300 submitted the online questionnaire. The response rate was 65.7%. The responses received till June 2011 were evaluated. The data related to dentists' profile (Question no. 1, 2, 3, 4 and 5) have been tabulated in Table 1. Median age of dentists was 28 years (range: 21-48 years) and years since graduation were 2 years (range: 1-26 years). The majority of respondents were

Table 1: Results regarding response to question no. 1, 2, 3, 4 and 5

1. Age (in years)	Median age: 28 Max. 48	Mean age: 29.29 ± 5.3 Min. 21
2. Years since graduation	Average: 5 Max. 26	Median: 2 Min. 1
3. Working area	Urban: 71%	Rural: 29%
4. Specialty (percentage of dentists in particular specialty)	General dentistry Periodontics Endodontics Pedodontics Prosthodontics Oral surgery Orthodontics Others	33.5% 43.8% 6.5% 5.4% 3.8% 2.7% 2.2% 2.2%
5. Favorite professional subject (percentage of dentists)	Periodontics Implantology Esthetic dentistry Endodontics Orthodontics Prosthodontics Oral surgery Pedodontics	28% 25% 13.2% 13.2% 9.5% 8.9% 8.9% 3.7%

periodontists (43.8%), rest of them being general dentists (33.5%), endodontists (6.5%), pedodontists (5.4%), prosthodontists (3.8%), oral surgeons (2.7%), orthodontists (2.2%), or belonging to other speciality (2.2%). The favorite professional subjects were periodontics (28%), implantology (25%), esthetic dentistry (13.2%), endodontics (13.2%), orthodontics (9.5%), prosthodontics (8.9%), oral surgery (8.9%), and pedodontics (3.7%).

Overall analysis of data

Subscription to dentistry journals

About 56% of dentists had subscription to dentistry journals and maximum number of subscriptions was 8; 53% of dentists were reading periodontology journals, and majority of them being periodontists. A significantly more number of participants above 28 years of age and with more than 5 years of experience had subscription to dentistry journals ($P = 0.000$).

Interest and satisfaction in practicing periodontics

Overall average for interest of dentists in practicing periodontics was 7.06 and satisfaction in practicing periodontics was found to be on an average 6.79. The interest and satisfaction in practicing periodontics were significantly higher among periodontists ($P = 0.000$), among dentists choosing periodontics as their favorite professional subject ($P = 0.000$) for interest and $P = 0.006$ for satisfaction) and among dentists working in urban area ($P < 0.05$).

The dentists with ≥ 28 years of age had more interest and satisfaction in practicing periodontics than dentists with ≤ 28 years of age but the difference between mean values for both the groups was statistically non-significant.

Knowledge regarding etiology and classification of gingival recession and general indication of root coverage procedures [Table 2]

According to survey results, 78% of dentists had knowledge about Miller's classification of gingival recession, 11% did not know, and 10% had forgotten the classification. A total of 98.9% of dentists reading Periodontology Journal knew Miller's classification, while only 54% of dentists not reading such journals had knowledge about Miller's classification - and this difference was statistically significant ($P < 0.05$). The respondents with knowledge of Miller's classification were found to have higher interest and satisfaction in practicing periodontics ($P = 0.000$ for interest and $P < 0.05$ for satisfaction).

The major causes of gingival recession as considered by respondents were improper tooth brushing (56%), periodontal disease (34%), abnormal tooth brushing (5%), and periodontal disease (5%). There was statistically significant difference in opinion of dentists aged above and below the median age, i.e., 28 years, as younger age group considered improper tooth brushing to be most common cause and higher age group individuals considered periodontal disease to be major cause of gingival recession.

About general indication of root coverage procedures, esthetics was considered as a major indication (47%), followed by dental hypersensitivity (28%), and prevention of further progression of recession (25%) amongst total study population. Occlusal stability and preservation of tooth vitality were not reported to be indications for root coverage. The area of practice seemed to influence the response, as dentists working in urban area considered esthetics, while dentists in rural area considered dental hypersensitivity to be major indication of root coverage procedures and the difference in percentages of dentists in each category was statistically significant ($P < 0.05$).

Knowledge and opinion regarding treatment of gingival recession [Table 3]

The responses of participants about treatment opinions for clinical situations 1, 2, 3, and 4 depicted in Figures 1-4 have been tabulated in Table 3. The most commonly opted treatment option for case 1 was

Table 2: Response to question no. 11, 12, and 13 regarding knowledge about etiology and classification of gingival recession and general indication for root coverage procedures

	Percentage response
11. Most common cause of gingival recession	
Improper tooth brushing	56
Periodontal disease	34
High frenal attachment	5
Abnormal tooth position	5
12. Knowledge about Miller's Classification of gingival recession	
Yes	78
No	11
Do not remember	10
Know any other classification	1
13. General indication of root coverage procedures	
Eesthetics	47
Dental hypersensitivity	28
Prevention of further progression of recession	25
Occlusal stability	0
Preservation of tooth vitality	0

change of toothbrush (29.1%) followed by change of brushing technique (56.1%) and for root coverage, coronally advanced flap was preferred (31.2%) while 9% of dentists opted for no treatment.

For clinical situation 2, the preponderance of response consisted of change of brushing technique (38%) and root planing (24.3%); treatment options for root coverage were as follows: connective tissue graft (28.04%), coronally advanced flap (24.8%), application of tissue simulating agent (24.5%). A complete 100% of respondents preferred for some clinical and/or surgical intervention in case 2.

Considering clinical situation 3, most frequent treatment options were root planing (47.08%) and flap surgery (41.7%). Change of toothbrush and change of brushing technique were opted by 11.6% and 22.2% of dentists. A total of 19% dentists also considered need for occlusal adjustment in the case. Perioplastic procedures commonly opted were free gingival graft (9.5%), coronally advanced flap (6.8%), and connective tissue graft (6.8%).

For clinical situation 4, 20.1% of dentists advocated change of brushing technique and for root coverage, dentists ranked free gingival graft as the most

preferred treatment (32%). Also, 5.8% dentists opted to extract the tooth and replace it with bridge and 5.3% of respondents opted to replace it with implant. About 0.5% of respondents opted for no treatment.

Referral to specialist was opted by 5.8%, 8.4%, 12.7%, and 13.7% of dentists, respectively, for clinical situations 1, 2, 3, and 4.

Comparative response of periodontists and non-periodontists for the questionnaire

Not surprisingly, most of the periodontists had chosen periodontics as their favorite professional subject (54%), were reading periodontology journals (91.4%) and had higher interest (mean value-8.21) and satisfaction in practicing periodontics (mean value-7.57).

The questionnaire response of periodontists and non-periodontists regarding etiology of gingival recession, knowledge about Miller's classification and general indication of root coverage procedures were compared and depicted in Figures 5-7, respectively.

Overall majority of dentists considered improper tooth brushing to be cause of gingival recession and comparative analysis revealed that 43% of periodontists and 59.8% of non-periodontists considered improper tooth brushing as cause of gingival recession. A total of 45.7% periodontists and 38.1% non-periodontists considered periodontal disease, while 9.6% of periodontists and 3.09% non-periodontists attributed abnormal tooth position to be the etiology of gingival recession [Figure 5].

A highly significantly greater number of periodontists knew Miller's classification (100%) as compared to non-periodontists (56.7%) ($P = 0.000$). About 38% of non-periodontists did not remember and 5.15% did not know the classification [Figure 6].

Regarding general indication for root coverage procedures, proportionately more number of periodontists considered esthetics (50.5%) to be general indication, and others considering dental hypersensitivity (21.5%) and preservation of further progression of periodontal disease (28%), while non-periodontists regarded dental hypersensitivity (45.6%), esthetics (45.4%), and preservation of further progression of periodontal disease (19%) as general indication. These differences were statistically highly significant ($P = 0.000$) [Figure 7].

The preference of therapeutic options for various clinical situations has been graphically presented in Figures 8-11. It was ascertained that more number of periodontists opted to treat the cases with perioplastic

Table 3: Response to questions 14, 15, 16, 17 regarding treatment opinions for clinical situations 1, 2, 3, and 4, respectively

Treatment option	Percentage response			
	Case 1	Case 2	Case 3	Case 4
No treatment	9	0	0.5	0.5
Change of toothbrush	29.1	18.5	11.6	12.2
Change of brushing technique	56.1	38	22.2	20.1
Occlusal adjustment	5.8	6.8	19.04	23.8
Root planing	17.9	24.3	47.08	29.1
Nightguard (occlusal splint)	2.1	0	5.3	4.2
Local antibiotic	2.1	1.05	12.7	6.8
Flap surgery	1.6	12.2	41.7	18.5
Bone graft	0	1.05	12.7	15.3
GTR with resorbable barrier membrane	3	16.4	10.05	10.05
GTR with non-resorbable barrier membrane	0	0.5	0	3.2
Application of tissue simulating agent	1.1	4.7	3.2	4.7
Coronally advanced flap	31.2	24.8	6.8	8.4
Free gingival tissue graft	3.7	19.5	9.5	32
Connective tissue graft	8.4	28.04	6.8	16.9
Extraction and replacement	0	0	0	5.8
Extraction and replacement	0	0	1.05	5.3
Referral to specialist	5.8	8.4	12.7	13.7
Other procedures	30	3.7	4.7	6.3



Figure 1: Clinical photograph of case 1



Figure 2: Clinical photograph of case 2

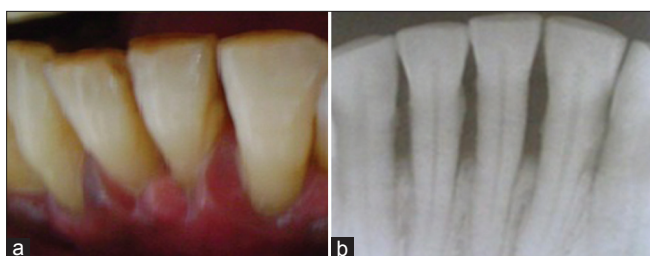


Figure 3: (a) Clinical photograph of case 3 (b) Intraoral Periapical Radiograph of case 3



Figure 4: (a) Clinical photograph of case 4 (b) Intraoral Periapical Radiograph of case 4

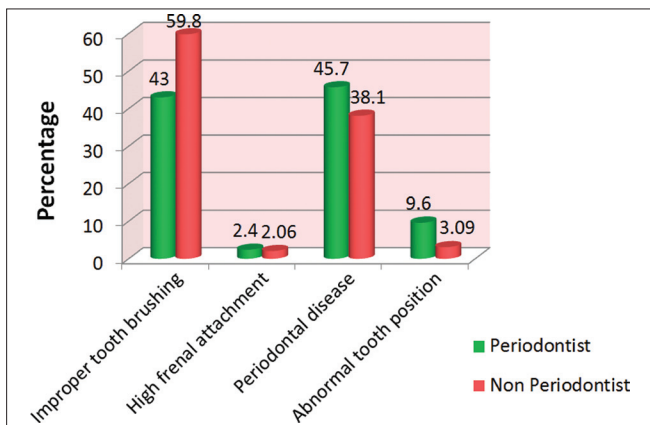


Figure 5: Graph showing comparative response of periodontists and non-periodontists regarding etiology of gingival recession

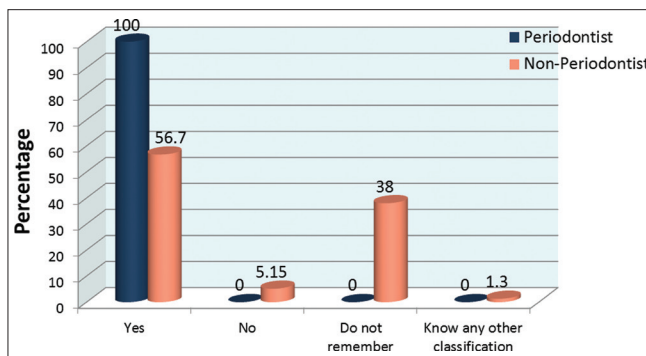


Figure 6: Graph showing comparative response of periodontists and non-periodontists regarding knowledge about Miller's Classification

procedures. Among periodontists preferred choice of root coverage procedure for clinical situation 1 was coronally advanced flap (66.2%); for situation 2 connective tissue graft (59%), coronally advanced flap (32.5%), and free gingival graft (27.7%); for situation 3 flap surgery (51.8%), bone graft (12.7%), and guided tissue regeneration with resorbable membrane (10.05%); for situation 4, connective tissue graft (39%), and free gingival graft (34%) were preferred.

Considerably lesser number of non-periodontists opted to treat the cases with root coverage procedures. Referral to specialist was opted by more number of non-periodontists especially for clinical situations with advanced disease viz. case 3 (25.7%) and 4 (24%).

DISCUSSION

Gingival recession, often a source of anxiety to

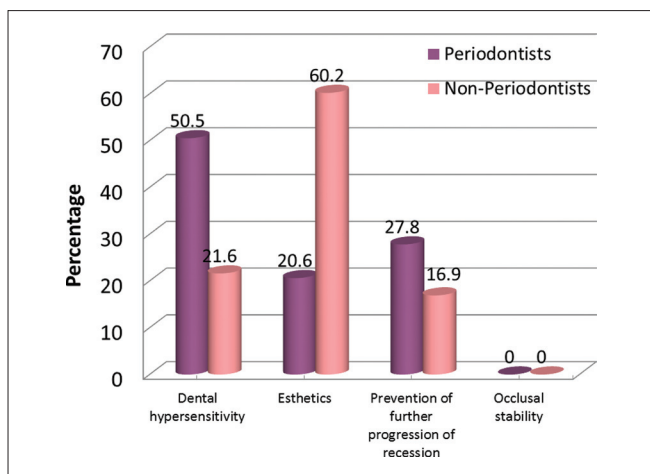


Figure 7: Graph showing comparative response of periodontists and non-periodontists regarding general indication of root coverage procedures

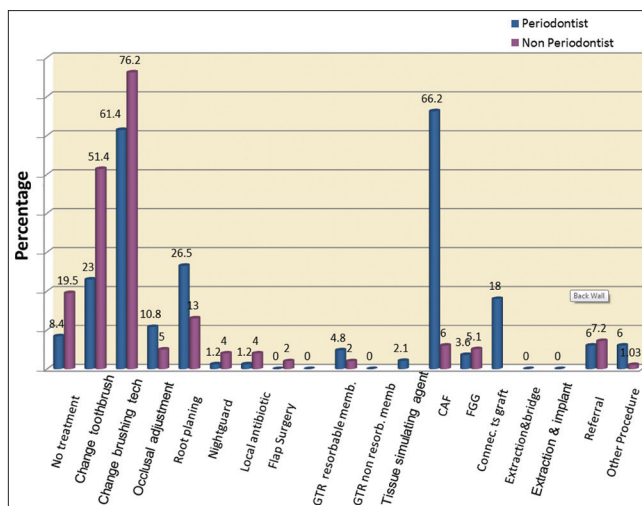


Figure 8: Graph showing comparative analysis of treatment opinions of periodontists and non-periodontists for case 1

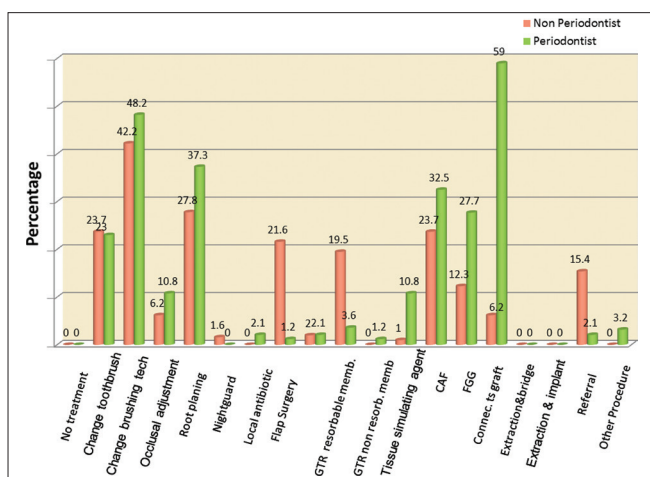


Figure 9: Graph showing comparative analysis of treatment opinions of periodontists and non-periodontists for case 2

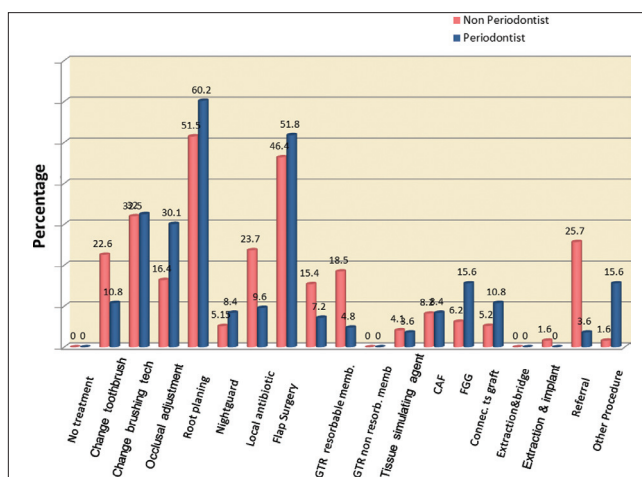


Figure 10: Graph showing comparative analysis of treatment opinions of periodontists and non-periodontists for case 3

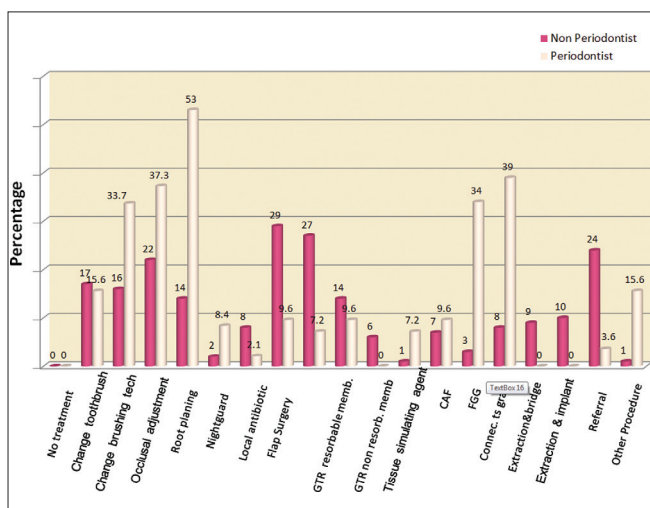


Figure 11: Graph showing comparative analysis of treatment opinions of periodontists and non-periodontists for case 4

patients and perplexity to those treating them, is an intriguing and complex phenomenon.^[8] In periodontal practice, treatment decisions for root coverage depend on clinician’s knowledge about etiology, classification, and treatment of gingival recession. The present survey assessed the knowledge, attitude, and interest of dentists in practicing periodontics including dentists from various disciplines of dentistry and general dentists.

The survey results revealed that respondents considered mechanical trauma induced by tooth brushing as a dominant factor for the development of recession which has also been mentioned as one of the commonest cause of gingival recession.^[9] Also, similar results have been reported in the survey conducted by Zaher *et al.*^[5] Specialists being more cognizant about

etiology of periodontal disease recognized presence of disease also a significant etiological factor.

Esthetics was rated as most common indication for treatment of gingival recession. A greater proportion of periodontists also considered prevention of further progression of periodontal disease as an indication for root coverage as more number of them had considered periodontal disease to be cause of gingival recession.

Among our respondents, periodontists (100%) and non-periodontists (50%) were aware of Miller's classification of gingival recession. Though number of different systems have been utilized to classify gingival recession;^[3,8,10] but Miller's classification^[10] forms an important basis for deciding whether the root coverage can be attempted for a given situation or not because it is based on prognostic evaluation with regard to complete root coverage. So, knowledge of this classification is essential for dentists to treat or refer gingival recession patients appropriately.

A significant association was observed between the dentists aware of classification, working in urban area, having periodontics as favorite professional subject, more experience and periodontists with a higher interest and satisfaction in practicing periodontics. Respondents with higher interest and satisfaction in practicing periodontics were more inclined towards treatment involving surgical correction of recession for clinical situations presented to them in questionnaire.

Change of toothbrush and change of brushing technique was advocated by majority of dentists for the all the clinical situations presented. Both of these options aim at removal of most common etiology of gingival recession suggested by respondents, i.e., trauma from tooth brushing. Although it is an important part of treatment but the removal of etiology halts the further progression of recession and cannot improve esthetics. Though esthetics was suggested major indication of root coverage procedures by respondents, treatment options favouring aesthetic enhancement were not considered by majority of them especially very less number of non-periodontists opted for such therapeutic modalities.

Application of tissue simulating agent was a preferred choice of treatment among periodontists for cases 2 and 4; but very few number of non-periodontists opted for this. Tissue simulating agents are gingival-colored composites which tend to demonstrate greater color stability and resistance to wear.^[11] Milnar (2011)^[12] reported that when they are used

in collaboration with the new generation of bonding agents, which enable bonding to metal, porcelain, enamel, and dentin, gingival-colored composites have been proven to enhance the smiles of patients with gingival recession. More importantly, this treatment option provides a clinical solution for patients that are esthetic, economical, and practical.

Flap surgery was recommended for case 3 by most of periodontists as periodontal disease was evident in the case and periodontal disease was recognized as cause of gingival recession by significantly more number of periodontists.

Perioplactic procedures like free gingival graft, connective tissue graft, and coronally advanced flap which are time tested procedures and have significant potential to obtain partial or complete root coverage;^[13-19] were chosen as treatment options for root coverage by a greater proportion of periodontists reflecting that periodontists are more inclined towards surgical correction of gingival recession. Similar results have been reported in a survey conducted by Mali *et al.*,^[20] to identify the various aspects of periodontal treatment provided at a general dental clinic, who reported that hardly any general practitioner performed mucogingival surgeries and almost all of them believed there is no success with root coverage procedures.

Regarding preferred root coverage techniques among periodontists; for case 1 coronally advanced flap, for case 2 connective tissue graft, and coronally advanced flap, whereas for cases 3 and 4 connective tissue graft and free gingival graft were preferred. So, although there was variation depending upon clinical situation but in general coronally advanced flap was most preferred followed by connective tissue graft and free gingival graft. The present study revealed an indigent preference for guided tissue regeneration (GTR) procedures to treat recession problems. Pini Prato, *et al.*^[21] have recommended non-resorbable barriers as treatment option for root coverage in deep recession defects but they seemed to be particularly unpopular among the respondents of our survey, even amongst periodontists. The results are in accordance with the response reported by Zaher *et al.*,^[5] in survey conducted among Swiss dentists.

In this era of evidence-based dentistry, dentist is required to cater to a patient based upon substantial evidence for their therapeutic decision. The procedures selected by specialists of our survey are strongly supported by the current evidence of literature. As

periodontists were more inclined towards reading periodontology journals, they were much more acquainted with currently available evidence, which is reflected by the fact that high efficacy and predictability of the treatment options preferred by them has been reported in various systematic reviews. Rocuzzo *et al.*,^[22] in a meta-analysis evaluated the coronally advanced flap, the lateral positioned flap, the free gingival graft, the connective tissue graft, GTR with resorbable and non-resorbable membranes and reported a significant advantage of connective tissue grafts over GTR. Al-Hamdan *et al.*,^[23] evaluated data from available studies on root coverage procedures to repair gingival recession. GTR-based root coverage was found to successfully repair gingival recession defects, but conventional mucogingival surgery resulted in statistically better root coverage and width of keratinized gingiva. Kassab MM (2010)^[19] reviewed literature pertinent to various root coverage techniques and concluded that the combination of connective tissue grafting with a coronally positioned flap has been shown to demonstrate the highest success rate.

The greater proportion of the non-periodontists preferred for extraction and replacement with either bridge or implant for cases 3 and 4, whereas it is evident from radiographs [Figures 3b and 4b], that not much of the bone is lost in these cases, and hence, good predictability of root coverage procedures cannot be precluded as Miller suggested that adequate amount of interdental hard and soft tissues results in positive outcome of root coverage procedure.^[10,16] Furthermore, a study by Spleith *et al.*,^[24] elucidated that the threshold for periodontal extractions is very low and undifferentiated, which calls for an improvement in knowledge of periodontal diagnosis and treatment. This survey confirmed that dentists with specialized training of perioplastic surgery are more inclined to opt for surgical periodontal treatment.

In the present survey, almost 90% of prosthodontists opted for extraction and replacement with implant for case 4 reflecting more inclination of prosthodontists towards implant placement. Most studies indicate that periodontally treated but questionable teeth have a better long-term retention rate (5 to 40 years) than expected.^[25-28] Several recent review papers have elucidated that there is no single clinical parameter (e.g., probing depth, bone loss, clinical attachment loss, mobility, or furcation invasion) that can dependably predict periodontal disease activity, tooth loss, or conversely, long-term tooth preservation.^[29-31]

Therefore, combinations of parameters have to be evaluated in concert with clinical judgment for treatment planning and prediction of therapeutic outcomes. Furthermore, there is no accurate way to denote a threshold for tooth removal based on periodontal status that is correct in every circumstance. Accordingly, the judgment to remove a tooth will vary depending on its clinical status, and this endeavor should be supported by the best available literature, clinical experience, and the patient's declared goals.^[28]

The referral to specialist was opted by more number of non periodontists as compared to periodontists especially for clinical situations 3 and 4 but overall the percentage of non-periodontists opting for referral was very less. Similar results have been reported in a study by Mali *et al.*^[20] that very less number of dentists referred their patients to periodontist for root coverage procedures. Every dental practitioner must have a thorough understanding of the roles of various disciplines in producing a healthy and esthetically pleasing dentition, with the most conservative and biologically sound interdisciplinary treatment plan possible. Here, the importance of referral at an appropriate time should be emphasized. Specially, in patients of gingival recession, timely referral of patients at a time when much of the bone is preserved would help the specialists to treat the patients with better clinical outcomes.

As esthetic demands of patients are increasing, esthetic periodontal therapy has become an integral part of periodontists' armamentarium, therefore our research is relevant and timely research directed at enhancing awareness among dental community towards treatment of gingival recession. This will create a fertile ground for promoting awareness programs among dental practitioners so that better treatment options can be provided to the patients.

Through our study and its results, we hope to be in a better position to clarify that dentists often neglect the scope of perioplastic surgeries because of lack of awareness and lack of professional competence. The awareness regarding scope of root coverage techniques can certainly be improved and this in turn can help meeting the patients esthetic demands better.

At the same time, we acknowledge the following limitations of our study. First, our study sample was based on a particular region and as almost half of the dentists did not participate in the study, it can therefore not be ruled out that selection bias biased our results. Second, the information was acquired

using closed questions where fixed choices were given and transition of thought process was not possible. Though we designed our study to assess interest and satisfaction of dentists in practicing periodontics based upon their knowledge regarding gingival recession, it must be acknowledged that in our study assessment was limited to gingival recession as an indicator of knowledge and familiarity while the survey did not entail direct questions on risk factors, signs, symptoms, and comorbidity patterns relating to periodontal disease as an issue of knowledge.

Nevertheless, this study forms an important baseline document for further studies utilizing better assessment tools to gauge requisite information. It emphasizes that it is crucial for dentists to stay at pace with the latest research, tools, and treatment methods as patients rely on them for appropriate care, safety, and comfort and being unaware may jeopardize the health and welfare of their patients. Pursuing continued education has many benefits; for a practicing dentist, it ensures that his or her patients have access to the latest diagnostic, preventive, and treatment methods.

CONCLUSION

The results elucidated that periodontists had better interest in periodontics, and were more inclined towards surgical correction of gingival recession as compared to non-periodontists. So, there is an increased need of enhancing awareness among dentists about potential scope of a periodontology so that timely specialist intervention is provided benefitting the patient through optimized care, specially, in developing countries like India where such large number of dentists opts for clinical practice. Practicing dentists should pursue continued education through speciality training or certificate programs and/or attending continuing dental education programs to stay informed about latest research findings and novel treatment options to provide optimized care to the patient.

APPENDIX I- STUDY QUESTIONNAIRE

Dentist's profile

1. Age
2. Years since graduation
3. Working area urban rural
4. Speciality
General dentistry Periodontics
Orthodontics Prosthodontics

Oral and Maxillofacial surgery Endodontics
Pedodontics Other

5. Favourite professional subjects
Oral surgery Esthetic dentistry
Implantology Endodontics
Orthodontics Periodontics
Prosthodontics Pedodontics
6. Do you have subscription to any dentistry journal-
Number of subscriptions to dentistry journals-

Interest and satisfaction in periodontics

7. Do you read any specific periodontology journals-
Yes No
8. Rate your interest in periodontics on a numerical scale from 1 (no interest) to 10 (high interest)-
9. Rate your satisfaction in practising periodontics, again on a numerical scale from 1 (no satisfaction) to 10 (high satisfaction)-

Knowledge in the classification and etiology of gingival recessions

10. What do you think is the most common cause for gingival recession?
 - a) Improper tooth brushing
 - b) High Frenal attachment
 - c) Periodontal disease
 - d) Abnormal tooth position
11. Do you know miller's classification of gingival recession?
 - a) Yes
 - b) No
 - c) Do not remember
 - d) Know any other classification
12. General indication of procedures for root coverage
 - a) Dental hypersensitivity
 - b) Aesthetics
 - c) Prevention of further progression of a recession
 - d) Occlusal stability
 - e) Preservation of tooth vitality
 - f) Others
13. Present photographs of four clinical cases with buccal gingival recessions at different stages
Pick the treatment procedure from the choice of following procedures you would prefer for each of these cases (Multiple answers are possible):
 - a) No treatment
 - b) Change of toothbrush
 - c) Change of brushing technique

- d) Occlusal adjustment
- e) Root planing
- f) Nightguard (occlusal splint)
- g) Local antibiotic
- h) Flap surgery
- i) Bone graft
- j) Guided tissue regeneration (GTR) with resorbable barrier membrane
- k) GTR with non-resorbable barrier
- l) Application of tissue stimulating agent
- m) Coronally advanced flap
- n) Free tissue graft
- o) Connective tissue graft
- p) Extraction and replacement with bridge
- q) Extraction and replacement with implant
- r) Referral to specialist
- s) Other procedures

REFERENCES

1. Khocht A, Simon G, Person P, Denepitiya JL. Gingival recession in relation to history of hard toothbrush use. *J Periodontol* 1993;64:900-5.
2. Checchi L, Daprile G, Gatto MR, Pelliccioni A. Gingival recession and toothbrushing in an Italian School of Dentistry: A pilot study. *J Clin Periodontol* 1999;26:276-80.
3. Kassab MM, Cohen RE. The etiology and prevalence of gingival recession. *J Am Dent Assoc* 2003;134:220-5.
4. Patel M, Nixon PJ, Chan MF. Gingival recession: Part 1. Aetiology and non-surgical management. *Br Dent J* 2011;211:251-4.
5. Zaher CA, Hachem J, Puhon MA, Mombelli A. Interest in periodontology and preferences for treatment of localized gingival recessions. A survey among Swiss dentists. *J Clin Periodontol* 2005;32:375-82.
6. Park CH, Thomas MV, Branscum AJ, Harrison E, Sabbagh MA. Factors influencing the periodontal referral process. *J Periodontol* 2011;82:1288-94.
7. Zemanovich MR, Bogacki RE, Abbott DM, Maynard JG Jr, Lanning SK. Demographic variables affecting patient referrals from general practice dentists to periodontists. *J Periodontol* 2006;77:341-9.
8. Smith RG. Gingival recession-Reappraisal of an enigmatic condition and a new index for monitoring. *J Clin Periodontol* 1997;24:201-5.
9. Wennstrom JL, Pini Prato G. Mucogingival therapy – periodontal plastic surgery. In: Lindhe J, Karring T, Lang NP, editors. *Clinical periodontology and implant dentistry*. 4th ed. Oxford: Blackwell-Munksgaard; 2003. p. 576-649.
10. Miller PD Jr. A classification of marginal tissue recession. *Int J Periodontics Restorative Dent* 1985;5:8-13.
11. Dijken JW, Sjostrom S, Wing K. The effect of different types of composite resin fillings on marginal gingiva. *J Clin Periodontol* 1987;14:185-9.
12. Milnar FJ. Solving aesthetic challenges due to gingival recession. *Dent Today* 2011;30:100,102-3.
13. Tugnait A, Clerehugh V. Gingival recession-its significance and management. *J Dent* 2001;29:381-94.
14. Kassab MM, Cohen RE. Treatment of gingival recession. *J Am Dent Assoc* 2002;133:1499-506; quiz 1540.
15. Oates TW, Robinson M, Gunsolley JC. Surgical therapies for the treatment of gingival recession: A systematic review. *Ann Periodontol* 2003;8:303-20.
16. Greenwell H, Fiorellini J, Giannobile W, Offenbacher S, Salkin L, Townsend C, *et al.* Informational paper oral reconstructive and corrective considerations in periodontal therapy. *J Periodontol* 2005;76:1588-600.
17. Alghamdi H, Babay N, Sukumaran A. Surgical management of gingival recession: A clinical update. *Saudi Dent J* 2009;21:83-94.
18. Chambrone L, Sukekava F, Araujo MG, Pustiglioni FE, Chambrone LA, Lima LA. Root-coverage procedures for the treatment of localized recession-type defects: A cochrane systematic review. *J Periodontol* 2010;81:452-78.
19. Kassab MM, Badawi H, Dentino AR. Treatment of gingival recession. *Dent Clin North Am* 2010;54:129-40.
20. Mali A, Mali R, Mehta H. Perception of general dental practitioners toward periodontal treatment: A survey. *J Indian Soc Periodontol* 2008;12:4-7.
21. Pini Prato G, Tinti C, Vincenzi G, Magnani C, Cortellini P, Clauser C. Guided tissue regeneration versus mucogingival surgery in the treatment of human buccal gingival recession. *J Periodontol* 1992;63:919-28.
22. Rocuzzo M, Bunino M, Needleman I, Sanz M. Periodontal plastic surgery for treatment of localized gingival recessions: A systematic review. *J Clin Periodontol* 2002;29 (Suppl. 3):178-94.
23. Al-Hamdan K, Eber R, Sarment D, Kowalski C, Wang HL. Guided tissue regeneration based root coverage: Meta-analysis. *J Periodontol* 2003;74:1520-33.
24. Splieth C, Giesenberg J, Fanghanel J, Bernhardt O, Kocher T. Periodontal attachment level of extractions presumably performed for periodontal reasons. *J Clin Periodontol* 2002;29:514-8.
25. Chace R Sr, Low SB. Survival characteristics of periodontally involved teeth: A 40 year study. *J Periodontol* 1993;64:701-5.
26. Checchi L, Montevicchi M, Gatto MR, Trombelli L. Retrospective study of tooth loss in 92 treated periodontal patients. *J Clin Periodontol* 2002;29:651-6.
27. Fardal O, Johannessen AC, Linden G. Tooth loss during maintenance following periodontal treatment in a periodontal practice in Norway. *J Clin Periodontol* 2004;31:550-5.
28. Greenstein G, Cavallaro J, Tarnow D. Dental Implants in the periodontal patient. *Dent Clin North Am* 2010;54:113-28.
29. McGuire MK, Nunn ME. Prognosis versus actual outcome II. The effectiveness of clinical parameters in developing an accurate prognosis. *J Periodontol* 1996;67:658-65.
30. Greenstein G, Greenstein B, Cavallaro J. Prerequisite for treatment planning implant dentistry: Periodontal prognostication of compromised teeth. *Compend Contin Educ Dent* 2007;28:436-47.
31. Avila G, Galindo-Moreno P, Soehren S, Misch CE, Morelli T, Wang HL. A novel decision-making process for tooth retention or extraction. *J Periodontol* 2009;80:476-91.

How to cite this article: Grover V, Kapoor A, Malhotra R, Sachdeva S. Interest and satisfaction of dentists in practicing periodontics: A survey based on treatment of gingival recession. *Dent Res J* 2012;9:404-13.

Source of Support: Nil. **Conflict of Interest:** None declared.