

Supportive Periodontal Therapy - Is the Patient Compliance Adequate?

Annie Kitty George¹, Thomas George², VN Vishnupriya³, Shilpa Joyce³, Sukumaran Anil⁴

Contributors:

¹Reader, Department of Periodontics, Pushpagiri College of Dental Sciences, Tiruvalla, Kerala, India; ²Professor, Department of Periodontics, Pushpagiri College of Dental Sciences, Tiruvalla, Kerala, India; ³Interns, Pushpagiri College of Dental Sciences, Tiruvalla, Kerala, India; ⁴Professor, Department of Dental Health, College of Applied Medical Sciences, King Saud University, Riyadh 12372, Saudi Arabia.

Correspondence:

Dr. George AK. Department of Periodontics, Pushpagiri College of Dental Sciences, Tiruvalla, Kerala, India. Phone: +91-9847440665. Email: ksucod@gmail.com

How to cite the article:

George AK, George T, Vishnupriya VN, Joyce S, Anil S. Supportive periodontal therapy: Is the patient compliance adequate? J Int Oral Health 2015;7(11):16-19.

Abstract:

Background: The preservation of periodontal health of the treated patient requires a positive maintenance program. Failure of compliance to supportive periodontal therapy (SPT) could lead to undiagnosed sites of disease recurrence and ultimately loss of teeth. The objective of the study was to determine the patterns in compliance to maintenance phase after surgical periodontal therapy in a periodontal practice. Furthermore to understand the reasons, for non-compliance or erratic compliance and to take positive measures to improve compliance to SPT.

Materials and Methods: Cross-sectional study was carried out in the Department of Periodontology, Pushpagiri College of Dental Sciences. Data were collected from case records of patients who had undergone surgical periodontal procedures at the center. Compliance to SPT was recorded. Patients were categorized as compliant, non-compliant and those who displayed erratic compliance. They were also grouped by age and gender. Non-compliant patients were contacted over telephone, and reasons for non-compliance were elucidated.

Results: The study showed that 9% of patients was compliant, 67% were non-compliant, and 24% showed erratic compliance. From among the non-compliant group of patients, 47 patients were reached over telephone. 28 patients said that they were not able to report for maintenance due to personal inconveniences. 19 patients stated that they did not report as they had no complaint.

Conclusion: Based on the observations of the study, it can be concluded that the compliance of periodontal patients is low which might contribute to the failure of surgical periodontal therapy. Clinicians must take all positive measures to reiterate the importance of SPT to their patients.

Key Words: Compliance, maintenance phase, supportive periodontal therapy

Introduction

Periodontitis is a chronic infectious disease characterized by inflammation related to intraoral biofilms harboring a variety of putative pathogenic micro-organisms. Chronic periodontitis can be effectively treated by means of mechanical non-surgical and surgical therapy.^{1,2} Evidence has shown the importance of supportive periodontal therapy (SPT) in minimizing long-term tooth loss and controlling disease progression and relapse.^{3,4} Periodontal maintenance is an integral part of periodontal therapy which starts after completion of active periodontal therapy and continues at varying intervals for the life of the dentition.⁵ Periodic clinical evaluations of the dentition and periodontium, removal of the dental biofilm, and a reinforcement of oral hygiene instructions are performed during SPT.

Studies have shown that tooth loss in periodontal patients is related to the frequency and quality of their maintenance care.^{6,7} Failure of periodontal surgical therapy has been reported in patients who are followed up at infrequent maintenance intervals.^{8,9} A recent systematic review by Gaunt *et al.*¹⁰ revealed that patients who are seen at regular intervals for SPT experienced less attachment loss.

Patient compliance is an important factor in the success of SPT and can be evaluated on the basis of the rate of attendance at the recommended schedule of visits. Even though several studies have reported low rates of compliance among patients; it was difficult to compare the observations due to the various parameters used.¹¹⁻¹⁴ The present study was conducted to evaluate the compliance of patients to SPT following periodontal surgical procedures in a university hospital. An attempt was made to explore the relationship with age and/or gender and the level of compliance. The reasons for non-compliance were reported through a telephonic enquiry.

Materials and Methods

Study design and setting

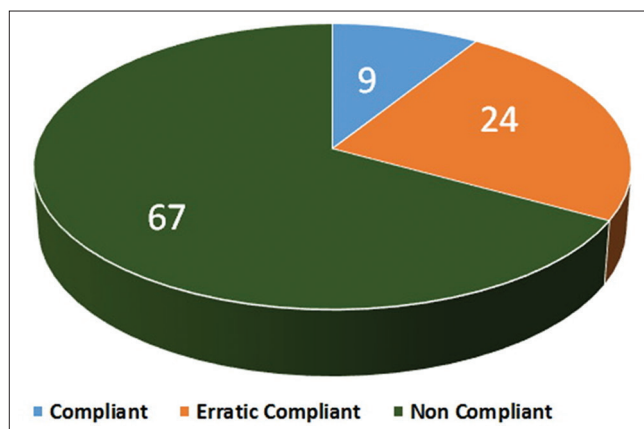
The study was conducted at the Department of Periodontology, Pushpagiri College of Dental Sciences. Records of patients who were diagnosed with chronic periodontitis and treated with surgical procedures were selected and relevant details collected. Data were collected from case records of patients who had received surgical periodontal therapy from May 3rd, 2010, until January 23rd, 2012. Case records of 100 patients

were studied. Of these 85 patients were treated for pocket reduction or elimination, 6 patients were treated for furcation involvements, and 9 patients were treated for endo-perio lesions. Open flap debridement was done in all cases. Patients were advised their first recall visit at 3 months after surgery. Subsequent recall appointments were scheduled based on initial disease presentation, and the response to therapy seen at the first appointment. The last patient in the study group was followed up for 1½ years. Patients were grouped based on compliance as compliant, non-compliant and those with erratic compliance. Patients who reported for all scheduled appointments were considered compliant, those who reported irregularly, and those patients who reported only with a complaint were considered under erratic compliance. Those patients who did not report for any scheduled recall appointments were considered non-compliant. Patients were grouped on the basis of age and gender. Non-compliant patients were contacted by telephone. Only 47 of them could be reached. From among those patients who were contacted, reasons for non-compliance were sought and recorded.

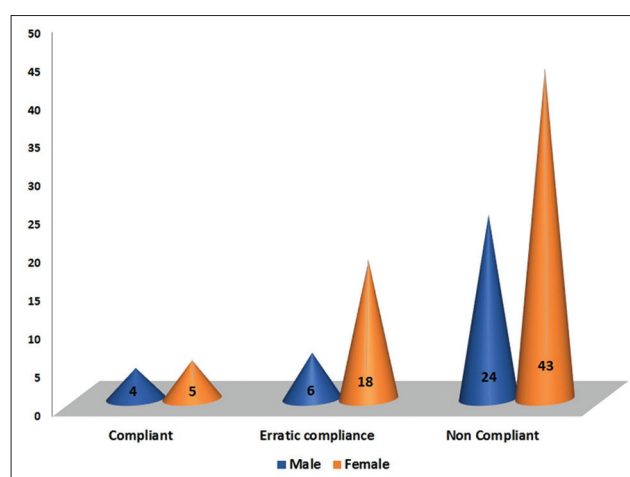
Results

About 100 case records of patients who had undergone surgical periodontal therapy from May 3rd, 2010, until January 23rd, 2012 were studied. There were 33 male and 67 female patients (Table 1). When grouped according to their age group, 27 patients fell in the 20-40 years age group, 69 in 41-60 age group, and 4 patients in the above 60 age group (Table 1). 9% of patients were compliant, 67% were non-compliant, and 24% were not regular for maintenance appointments (Table 1 and Graph 1).

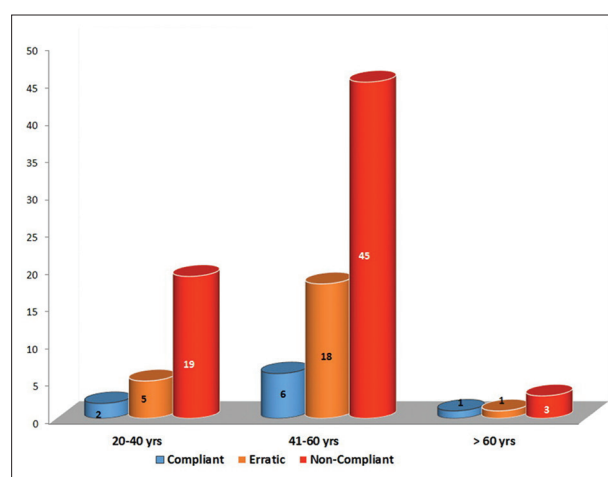
In the non-compliant group of patients, 24 were males and 43 were females (Table 1 and Graph 2). Statistical analysis using Chi-square test does not show a statistically significant relation between non-compliance and gender of patients ($P = 0.267$, $P > 0.05$). Non-compliance patients were maximum in the 41-60 age groups (Table 1 and Graph 3). Statistical analysis using Chi-square test does not show a statistically significant relation between non-compliance and patient's age ($P = 0.838$, $P > 0.05$). All 47 non-compliant patients were contacted over telephone. All of them recalled that they were advised regular recall appointments and also the importance of maintenance visits were explained to them. Of them 28 patients stated that reason for non-compliance was due to personal inconvenience and 19 patients said that they did not report for follow-up as they did not have a complaint.



Graph 1: Distribution of compliant/erratic/and non-compliant patients.



Graph 2: Gender wise distribution patients.



Graph 3: Distribution of patients in various age groups.

Patient group	20-40 years		41-60 years		>60 years		Total
	Male	Female	Male	Female	Male	Female	
Compliant	1	1	2	4	1	0	9
Erratic-compliant	1	4	4	14	1	0	24
Non-compliant	7	12	16	29	1	2	67
Total	9	17	22	47	3	2	100

Discussion

Prior history of periodontal disease is an important risk marker and a major cause of tooth loss. Inadequate control of dental biofilm after the phase of active treatment may result in recolonization of the subgingival area by periodontal pathogenic microorganisms, which could compromise the results of the treatment.¹⁵ Patients, who attend regular periodontal maintenance programs, have significantly less attachment loss and tooth loss when compared to those who did not receive SPT.¹⁶ Several studies have shown the correlation between compliance with SPT and tooth loss.¹⁷⁻²⁰

A study conducted by Wilson *et al.*⁷ in a private dental care center indicated that a complete complier group retained more teeth than did erratic compliers. Another study revealed that poor-compliant patients with SPT were 5.6 times more likely to lose teeth than regularly compliant patients.¹⁹ Patients, who failed to comply with SPT, were less motivated to home care methods which resulted in recurrence of the periodontitis.²¹

In this study, compliance to maintenance phase following surgical periodontal therapy is assessed. All cases taken up for study were diagnosed with chronic periodontitis. The first recall visit was scheduled at 3 months post-treatment. Subsequent visits were decided based on initial disease presentation and on response to treatment seen at first 3 months. The last patient evaluated for compliance was followed up for 1½ years. Previous studies have shown that higher incidence of disregard to SPT was observed in the 1st year of maintenance. Hence, this period is critical for patients' motivation.²² Results of the study show that only 9% of patients are compliant, 24% display erratic compliance and 67% were non-compliant. An earlier study that evaluated patients' adherence to the periodontal maintenance program at a university hospital in Brazil showed that only 20.2% of the patients were complete compliers, 9.0% were irregular compliers and 70.7% of the patients were non-compliers.²³ Most studies in this regard indicate that compliance was not associated with patients' gender.²³ However, an association between gender and compliance rate was shown in other studies, where women exhibited a higher compliance rate.²⁴

Regarding patients' age, no significant differences were observed among compliant, erratic compliance, and non-compliant groups. Most of the studies show that elderly patients are the best compliers.²⁵ In this study, the reasons for non-compliance were sought by contacting patients over telephone. The most common reason given was that of personal in convenience. This sheds light into the fact that patients have not attached due importance to the maintenance phase of therapy. Many of these patients think that they no longer require treatment. As periodontal disease activity often silently progresses without much pain, patients do not consider recall visits important. Study results indicate that

periodontists need to take positive measures to communicate the importance of SPT to their patients. Audiovisual aids could be more effective in this regard. Consequences of non-compliance should be informed. Treated patients should be carefully examined for adequate plaque control and any site of disease recurrence should be recorded. Patient compliance can be improved by reminding them of their recall appointments by post, telephone, or mail. Motivational aids in the form of printed hand-outs with scheduled recall appointment dates could go a long way in improving compliance.

Conclusion

The maintenance phase of periodontal therapy is as important as the treatment phase. However, compliance to SPT is poor. Study results show that only 9% of patients are compliant, 24% display erratic compliance, and a large 67% were non-compliant. When questioned on the reasons for non-compliance, most patients attributed it to personal inconvenience. A scheduled and planned maintenance phase is mandatory to maintain a stable periodontium in the treated patient. Clinicians must take all positive measures to reiterate the importance of SPT to their patients.

References

1. Serino G, Rosling B, Ramberg P, Socransky SS, Lindhe J. Initial outcome and long-term effect of surgical and non-surgical treatment of advanced periodontal disease. *J Clin Periodontol* 2001;28(10):910-6.
2. Delatola C, Adonogianaki E, Ioannidou E. Non-surgical and supportive periodontal therapy: Predictors of compliance. *J Clin Periodontol* 2014;41(8):791-6.
3. Renvert S, Persson GR. Supportive periodontal therapy. *Periodontol* 2000 2004;36:179-95.
4. Lee CT, Huang HY, Sun TC, Karimbux N. Impact of patient compliance on tooth loss during supportive periodontal therapy: A systematic review and meta-analysis. *J Dent Res* 2015;94(6):777-86.
5. Parameter on periodontal maintenance. American Academy of Periodontology. *J Periodontol* 2000;71 5 Suppl:849-50.
6. Axelsson P, Nyström B, Lindhe J. The long-term effect of a plaque control program on tooth mortality, caries and periodontal disease in adults. Results after 30 years of maintenance. *J Clin Periodontol* 2004;31(9):749-57.
7. Wilson TG Jr, Glover ME, Malik AK, Schoen JA, Dorsett D. Tooth loss in maintenance patients in a private periodontal practice. *J Periodontol* 1987;58(4):231-5.
8. DeVore CH, Duckworth JE, Beck FM, Hicks MJ, Brumfield FW, Horton JE. Bone loss following periodontal therapy in subjects without frequent periodontal maintenance. *J Periodontol* 1986;57(6):354-9.
9. Linden G, Patterson C, Evans A, Kee F. Obesity and periodontitis in 60-70-year-old men. *J Clin Periodontol* 2007;34(6):461-6.
10. Gaunt F, Devine M, Pennington M, Vernazza C, Gwynnett E, Steen N, *et al.* The cost-effectiveness of supportive periodontal care for patients with chronic

- periodontitis. J Clin Periodontol 2008;35 8 Suppl:67-82.
11. Wilson TG Jr, Glover ME, Schoen J, Baus C, Jacobs T. Compliance with maintenance therapy in a private periodontal practice. J Periodontol 1984;55(8):468-73.
 12. Frisch E, Ziebolz D, Vach K, Ratka-Krüger P. Supportive post-implant therapy: Patient compliance rates and impacting factors: 3-year follow-up. J Clin Periodontol 2014;41(10):1007-14.
 13. Salvi GE, Mischler DC, Schmidlin K, Matuliene G, Pjetursson BE, Brägger U, et al. Risk factors associated with the longevity of multi-rooted teeth. Long-term outcomes after active and supportive periodontal therapy. J Clin Periodontol 2014;41(7):701-7.
 14. Kim SY, Lee JK, Chang BS, Um HS. Effect of supportive periodontal therapy on the prevention of tooth loss in Korean adults. J Periodontal Implant Sci 2014;44(2):65-70.
 15. Fujise O, Miura M, Hamachi T, Maeda K. Risk of *Porphyromonas gingivalis* recolonization during the early period of periodontal maintenance in initially severe periodontitis sites. J Periodontol 2006;77(8):1333-9.
 16. Miyamoto T, Kumagai T, Jones JA, Van Dyke TE, Nunn ME. Compliance as a prognostic indicator: Retrospective study of 505 patients treated and maintained for 15 years. J Periodontol 2006;77(2):223-32.
 17. König J, Plagmann HC, Langenfeld N, Kocher T. Retrospective comparison of clinical variables between compliant and non-compliant patients. J Clin Periodontol 2001;28(3):227-32.
 18. Fardal Ø, Johannessen AC, Linden GJ. Tooth loss during maintenance following periodontal treatment in a periodontal practice in Norway. J Clin Periodontol 2004;31(7):550-5.
 19. Checchi L, Montevecchi M, Gatto MR, Trombelli L. Retrospective study of tooth loss in 92 treated periodontal patients. J Clin Periodontol 2002;29(7):651-6.
 20. Bäumer A, Pretzl B, Cosgarea R, Kim TS, Reitmeir P, Eickholz P, et al. Tooth loss in aggressive periodontitis after active periodontal therapy: Patient-related and tooth-related prognostic factors. J Clin Periodontol 2011;38(7):644-51.
 21. Soolari A, Rokn AR. Adherence to periodontal maintenance in Tehran, Iran. A 7-year retrospective study. Quintessence Int 2003;34(3):215-9.
 22. Demetriou N, Tsami-Pandi A, Parashis A. Compliance with supportive periodontal treatment in private periodontal practice. A 14-year retrospective study. J Periodontol 1995;66(2):145-9.
 23. Novaes AB Jr, de Lima FR, Novaes AB. Compliance with supportive periodontal therapy and its relation to the bleeding index. J Periodontol 1996;67(10):976-80.
 24. Demirel K, Efeodlu A. Retrospective evaluation of patient compliance with supportive periodontal treatment. J Nihon Univ Sch Dent 1995;37(3):131-7.
 25. Mendoza AR, Newcomb GM, Nixon KC. Compliance with supportive periodontal therapy. J Periodontol 1991;62(12):731-6.