

EVALUATION OF PATIENT'S EXPECTATIONS BEFORE AND AFTER NONSURGICAL PERIODONTAL TREATMENT

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ABSTRACT

Objective: The purpose of this study was to compare patient expectations before Nonsurgical Periodontal Treatment with their level of satisfaction afterward based on a self-reported questionnaire.

Materials and Methods: Information was obtained from 140 patients initially diagnosed with chronic periodontitis. The survey was completed twice by each patient, once before and once after NSPT. For sample size calculation, we used Open epi, the calculated sample size was 16, by taking pre expectation of the (functional) 5.0 ± 3.0 and post expectation of the (functional) 9.1 ± 1.7 by using a visual analog scale (VAS) while keeping 95% confidence interval and 90% power of the study but to take the normality assumption of the data we took 140 sample size for our research.

Results: Positive correlations was found between expectations and post treatment outcome for esthetics (Spearman's $\rho = 0.671$, $p < .001$). A positive correlation was also found between expectations and post treatment ratings for function (Spearman's $\rho = 0.917\%$, $p < .001$). No significant association was found between esthetic and functional expectations, gender ($p = .518$ and $p = .376$), and educational level ($p = .916$ and $p = .412$).

Conclusion: The majority of the patients in our study who were young end educated were satisfied with NSPT received.

Keywords: Patients expectations, Periodontal treatment, Nonsurgical

INTRODUCTION

Periodontal diseases result in progressive destruction of bone and the tooth-supporting structures. It is irreversible and caused by poor plaque control, allowing a sticky film of bacteria to build upon tooth surface and harden¹

The progression of periodontal disease can be stopped through treatment. Depending on the extent of periodontal disease, treatment is in the form of periodontal therapy. Periodontal therapy includes scaling and root planning, patient motivation, oral

hygiene instructions, and periodontal surgery². It is important for patients to be satisfied with the periodontal treatment received to improve treatment quality and compliance. This will, in turn, lead to better prognosis and maintenance of good periodontal health. Patients' compliance with periodontal therapy is important for the treatment outcome.

Nonsurgical Periodontal treatment (NSPT) is one of the most important procedures in oral rehabilitation and should be used to assess patient satisfaction and success of such therapies³.

Numerous studies have evaluated the efficacy of NSPT based on patient satisfaction^{4,5}, and in most of these studies, patients stated they were satisfied with the treatment. The primary goal of nonsurgical periodontal therapy is to control microbial periodontal

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infection by removing bacterial biofilm, calculus, and toxins from periodontally involved root surfaces⁶. A review of the scientific literature indicates that mechanical nonsurgical periodontal treatment predictably reduces the levels of inflammation and probing pocket depths, increases the clinical attachment level, and results in an apical shift of the gingival margin⁷. Another parameter to be considered, despite the lack of scientific evidence, is the reduction in the degree of tooth mobility, as clinically experienced⁸.

Satisfying patients should be a key task for all dental providers, and patient satisfaction has been shown to influence compliance and success of treatment. Satisfaction after periodontal therapy varies from one person to another and may depend on various factors like disease severity and attitude of the individual⁹.

The purpose of this study was to compare patient expectations before periodontal treatment with their degree of satisfaction after the treatment based on a self-developed questionnaire.

MATERIALS AND METHODS

After approval from the research committee of Khyber College of dentistry, informed consent was signed from subjects participating in the study. All the subjects were informed about the study both verbally and in written form. A total of 140 patients seeking Nonsurgical periodontal treatment were randomly drawn from the patients coming to the periodontology department of Khyber College of Dentistry Peshawar. All subjects had been initially diagnosed with chronic periodontitis. The criteria used in selecting patients were adults aged above 18 years, more than 50% teeth present at the time of the study, no underlying systemic disease, no use of systemic medications, and no periodontal treatment during the last one year. Patients with underlying systemic diseases, smokers, pregnant women, below 18 years of age, and those who do not want to participate in the study were excluded from the study.

During the first appointment the patients who fulfill the inclusion/exclusion criteria and willing to participate in the study were asked to indicate their expectations about the esthetic and functional results of their Nonsurgical Periodontal treatment, ranging from 0 (indicated by the express "No bene"its") to 10 (indicated by the express "Outstanding

bene" its") on a 10 cm visual analog scale (VAS).

The specific questions asked before the treatment were: (1) *on this scale of 0 to 10, how would you score the esthetic benefits you expect from the Nonsurgical Periodontal treatment? And (2) on this scale of 0 to 10, how would you score the functional benefits you expect from the Nonsurgical Periodontal treatment (mastication and comfort?)*

After completing the Nonsurgical Periodontal treatment, patients were recalled after four weeks for a follow up periodontal maintenance. They were again asked to indicate, on the same VAS, their rating of the outcome of the two parameters above by answering the following questions: (1) *On this scale of 0 to 10, how would you score the esthetic benefits you gained from the Nonsurgical Periodontal treatment? And (2) on this scale of 0 to 10, how would you score the functional benefits you gained from the Nonsurgical Periodontal treatment (mastication and comfort?)*

The NSPT was completed by the principal investigator using an ultrasonic scaler. All the plaque and calculus above and below the gum line were removed, making sure to clean down to the bottom of the pocket. Root planing involved smoothing rough spots on the roots of the teeth. The whole procedure was done in a single visit

RESULTS

A total of 140 subjects participated in the study, concluded their treatment, and answered the final evaluation. Out of the total 140 subjects, 76 were male, and 64 were female. Table 1 shows the distribution of the subjects based on education.

Table 2 shows a number of subjects who reported their esthetic expectations before NSPT and esthetic outcome after NSPT. The esthetic benefit of NSPT exceeds the esthetic expectations before and after the treatment.

Table 3 shows the number of subjects who reported their functional expectation before NSPT and functional outcome after NSPT. The functional outcome was significant.

Positive correlations was found between expectations and posttreatment outcome for esthetics (Spearman's rho = 0.671, $p < .001$). A positive correlation was also found between expectations and

Table 1

Educated	98
Noneducated	42

Table 2

	Esthetic expectation before NSPT	Esthetic benefit after NSPT
No benefit	22	0
Mild benefit	68	0
Moderate benefit	28	3
Excellent benefit	20	64
Outstanding benefit	2	73

Table 3

	Functional expectation before treatment	Functional outcome after treatment
No benefit	5	0
Mild benefit	25	0
Moderate benefit	63	15
Excellent benefit	45	67
Outstanding benefit	2	58

Table 4

		Functional outcome after NSPT			Total
		Moderate	Excellent	Outstanding	
Education of patient	Educated	10	42	46	98
	Non-educated	5	25	12	42
Total		15	67	58	140

Table 5

		Esthetic benefit after NSPT			Total
		Moderate benefit	Excellent benefit	Outstanding benefit	
Education of patient	Educated	1	46	51	98
	Non-educated	2	18	22	42
Total		3	64	73	140

posttreatment ratings for function (Spearman’s rho = 0.917%, $p < .001$).

No significant association was found between esthetic and functional expectations, gender ($p = .518$ and $p = .376$), and educational level ($p = .916$ and $p = .412$).

Tables 4 and 5 show the association between education level and esthetic and function outcome after NSPT, which is not statistically significant (p -value 0.124 & p -value 0.363).

DISCUSSION

This study was conducted on patients who needed nonsurgical periodontal therapy (NSPT). NSPT is done to treat and stop the progression of periodontitis¹⁰, which specifically affects the bone around the teeth and its soft tissue. Data was collected from a non-random sample of patients who needed NSPT, and it would be inappropriate to generalize the result.

Oral health care measures help to prevent and treat periodontitis, but self-diagnosis and linking the connection between gingival bleeding and periodon-

titis is very low in our population. Periodontal care is commonly affected by the chronic nature of the disease, and most of the patients do not find such a disease threatening¹¹.

Most of the patients in our study were educated (table 1). This could have affected our result with more patients showing higher satisfaction levels on VAS after NSPT. This may be because of their better understanding of the procedure.

Tables 2 and 3 show that the esthetic and functional benefits of NSPT were high. This may be because of the strict inclusion of patients having heavy plaque and calculus and stains. NSPT has excellent results in patients having esthetic concerns due to extrinsic stains and plaque and calculus deposits. Better esthetic and functional results can also be correlated to the higher number of educated patients who better understood the procedure. Patients' esthetic expectations were low before treatment. A possible reason for such low expectations can be a previous unpleasant NSPT experience. Our results are in contrast to the study of Lee JM et al.¹², who reported low satisfaction after treatment. This may be because of the surgical nature of the treatment.

Our results are in collaboration with the results of Otido MJ¹³, who reported that 91% of the patients were satisfied with the treatment. Similar results have been found in a study conducted in the UK by R.Bedi et al.¹⁴, who reported 89% satisfaction in patients following NSPT.

Our results also contradict a study done by Gurdal P. et al.¹⁵ in Turkey, which showed that less than 38% were satisfied with the treatment. This difference could be because of the different treatment needs of the patients, socio-economic setup, and urbanization.

In our study, most of the satisfied patients were young and educated. The level of education plays a major role in understanding treatment protocols and compliance with oral hygiene measures. Young patients present with less severe symptoms, and this may be a possible cause for better satisfaction in young patients. This contradicts the study of Newsome PRH et al.¹⁶, where satisfaction with the quality of care received at the dentist was associated with age. In this case, younger 'people were less satisfied with the quality of care received at their

dentist compared to older people. This difference is probably due to the different social upbringing of the younger generation in the United Kingdom.

CONCLUSION

So we can conclude from our study that the majority of the patients were satisfied with the nonsurgical periodontal therapy received. Younger patients who were educated were more satisfied.

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