

Assessment of level of satisfaction and problems in patients treated with fixed partial denture in Alkharj City (Kingdom of Saudi Arabia)

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Abstract

Background: Dental treatment aims for rehabilitation of the patient's lost functional capacity and aesthetics. Fixed partial denture the term used for denoting the partial dentures that is cemented to the natural teeth or root. One of the common problems encountered with patients wearing partial dentures is the prosthesis failure. Variation also exists regarding the satisfaction of the patients in relation to the partial prosthesis. Hence; we planned the present study to evaluate the satisfaction of the patients and any problem related to it after placement of FPDs in them.

Materials & Methods: The present study included assessment of patients who were rehabilitated by FPDs in Alkharj city (KSA). A total of 150 patients were analyzed through a self-prepared questionnaire which was given to all the patients which included questions related to mastication, phonetics and esthetics. All the results were compiled and analyzed by different observers who were unaware of the study protocol.

Results: Majority of the patients belonged to the age-group of 40 to 49 years. Approximately 50 percent of the patient's population had complete satisfaction in relation to pain on wearing of FPD while only 4 patients were unsatisfied by the FPD in relation to pain. Majority of the patients in the present study were satisfied with taste perception (59 patients) and with aesthetics whereas only a small percentage of them were unsatisfied.

Conclusion: Patients with FPDs show a high level of satisfaction both in terms of aesthetics and functional ability.

Keywords: fixed partial denture, prosthodontics, satisfaction

1. Introduction

Patients seek dental treatment with aim of rehabilitation and improvement of oral health and functions. At the same time, dental treatment also aims for the complete patient satisfaction [1]. Dental caries are initiated most commonly by poor oral hygiene and if untreated, leads to periodontal destruction and bone loss [2]. Davis *et al.* in 2000 purposed that patients can be deprived socially by tooth loss and majority of patients undergoing prosthetic rehabilitation in their study were distressed emotionally after having tooth loss [3]. The major concern of the dentists performing dental rehabilitation is the improvement of the aesthetic and functional ability of the patients along with the elimination of masticatory and other oral problems [4-7]. Depending upon the conditions of the oral health of the patients, various removable and fixed treatment options are available for replacing the lost teeth [8].

Fixed partial denture (FPD) is the term used for denoting the partial dentures that is cemented to the natural teeth or root thereby furnishing and providing primary prosthesis support. Healthy occlusion with longevity of several years can be achieved by FPD which transforms unhealthy poor functioning dentition into a comfortable one. Prosthesis failure in the patients rehabilitated with dental treatment can affect the periodontal health of the abutment teeth [9-10]. Hence; we

planned the present study to evaluate the satisfaction of the patients and any problem related to it after placement of FPDs in them. We also aimed to assess the patient's satisfaction in relation to the mastication, phonetics and aesthetics after placement of FPDs.

2. Materials & Methods

The present study was conducted in the department of prosthetic dental sciences of the institution and included assessment of patients who were rehabilitated by FPDs from 2012 to 2016 in Alkharj City (KSA). Ethical approval was taken from the institutional ethical committee and written consent was obtained after explaining in detail the entire research protocol. Inclusion criteria for the present study included:

- Partially edentulous patients,
- Patients without history of any systemic illness,
- Patients without history of any known drug allergy,
- Patients between 18 to 78 years of age,

A total of 150 patients were enrolled in the present study. All the patients were rehabilitated by FPDs in the department of prosthetic dental sciences. A questionnaire was framed and was given to all the patients which included questions related to mastication, phonetics and esthetics. Questions also aimed

to assess various problems related to the prostheses (Table 1). All the results were compiled and analyzed by different observers who were unaware of the study protocol. Experienced

prosthodontist was chosen for the analyzing the results. All the results were recorded and assessed separately using SPSS software (Version 21.0, SPSS Inc., Chicago, USA).

Table 1: Standard Questionnaire Format used in the study

1) Name
2) Contact Detail
3) Age
4) Sex: Male /Female
5) Level of education: <i>Primary/ Secondary/ Higher secondary/ University/ Others</i>
6) Have you received any: <i>Crown/ Fixed partial denture/ Removable partial denture/ Implant supported prostheses/ Complete denture</i>
7) Do you have any pain associated with the prosthesis: <i>Satisfied / Somewhat satisfied/ Neutral/ Not very satisfied/ Unsatisfied</i>
8) Are you comfortable with mastication (Chewing): <i>Satisfied// Somewhat satisfied/ Neutral/ Not very satisfied/ Unsatisfied</i>
9) How you feel the taste of food with the prosthesis: <i>Satisfied/ Somewhat satisfied/ Neutral/ Not very satisfied/ Unsatisfied</i>
10) How much are you satisfied with esthetics (Shade and Appearance): <i>Satisfied/ Somewhat satisfied/ Neutral/ Not very satisfied/ Unsatisfied</i>
11) Did you feel any bad smell after placement of prosthesis: <i>Never/ Rarely/ Sometimes/ Often/ Always</i>
12) Do you use any interdental aids to clean your fixed prosthesis: <i>Never used/ Almost never/ Sometimes/ Almost every time/ Every time</i>
13) Have you been given advice to take care of prosthesis after placement by your dentist: <i>Never/ Rarely/ Sometimes/ Often/ Always</i>
14) Will you recommend the same treatment to your family and friends: <i>Never/ Rarely/ Sometimes/ Often/ Always</i>

3. Results

A total of 150 patients were enrolled in the present study. Majority of the patients belonged to the age-group of 40 to 49 years (45 patients). 38 and 28 patients belonged to the age group of 30 to 39 years and 50 to 59 years respectively. None of the patients were above 80 years of age (Fig 1). Only four patients belonged to the age group of 70 to 78 years. Out of 150, 85 patients were males while 65 were females (Fig 2). Approximately 39 percent of the patients were educated upto university level while only 4.67 percent of the patients had education upto primary level respectively. 36 percent of the patients were educated upto higher secondary level of education.

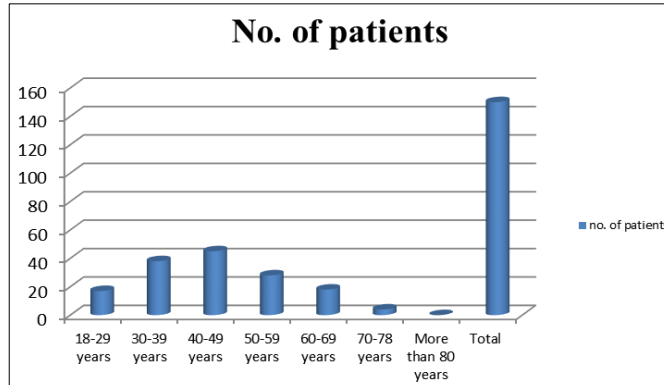


Fig 1: Age- wise distribution of the patients

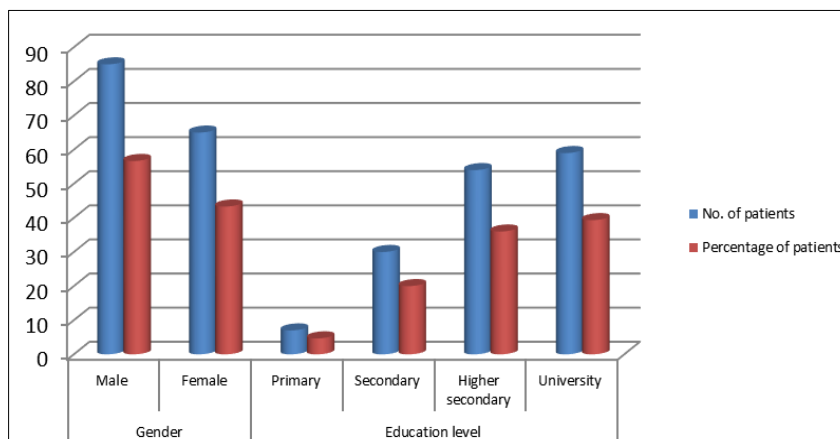


Fig 2: Gender- wise and education- wise distribution of patients

Patient’s perception in relation to pain and mastication problems associated with FPDs is highlighted in Table 2. Approximately 50 percent of the patient’s population had complete satisfaction in relation to pain on wearing of FPD while only 4 patients (2.67 percent) were unsatisfied by the FPD in relation to pain. As far as mastication was concerned, majority (approximately 40 percent) of the patients were satisfied while only 2 patients were completely unsatisfied. Table 3 shows the patient’s satisfaction levels in relation to taste and aesthetics on wearing of FPDs. Majority of the patients in the present study were satisfied with taste perception (59 patients) and with aesthetics (65 patients) whereas only a small percentage of them were unsatisfied (Fig 3). The responses from questionnaire revealed some interesting facts like mostly participants were from higher secondary level or above (Fig 4). All of them had received fixed partial denture amongst roughly half felt no pain after treatment (Fig 5, Fig 6). Total 59 participants were satisfied for comfort during mastication while 48 had neutral outlook towards comfort during mastication (Fig 7). Total 59 satisfactorily felt the taste of food with the prosthesis while 50 were neutral on this subject (Fig 8). Most of the patients were satisfied from their esthetic point of view wherein only 2 were not satisfied at all (Fig 9). Total 5 patients reported bad smell after treatment while 56 felt it sometime and 44 noticed it rarely (Fig 10). About the interdental cleaning aid, only 24 patients used it every time while 17 never used it ever (Fig 11). Total 48 participants have been given advice to take care of prosthesis after placement by their dentist however it never happened in case of 13 participants (Fig 12). Only 44 patients were ready to recommend the same treatment to their family and friends while 10 were not ready for it (Fig 13).

Table 2: Effect of Pain and Mastication (N=150)

	Variable	Frequency	Percentages
Pain	Satisfied	76	50.67
	Somewhat satisfied	33	22.00
	Neutral	30	20.00
	Not very satisfied	7	4.67
	Unsatisfied	4	2.67
Mastication	Satisfied	59	39.33
	Somewhat satisfied	32	21.33
	Neutral	48	32.00
	Not very satisfied	9	6
	Unsatisfied	2	1.33

Table 3: Effect of Taste and Aesthetics (N=150)

	Variable	Frequency	Percentages
Taste	Satisfied	59	39.33
	Somewhat satisfied	34	22.67
	Neutral	50	33.33
	Not very satisfied	4	2.67
	Unsatisfied	3	2.00
Aesthetics	Satisfied	65	43.33
	Somewhat satisfied	35	23.33
	Neutral	42	28.00
	Not very satisfied	6	4.00
	Unsatisfied	2	1.33

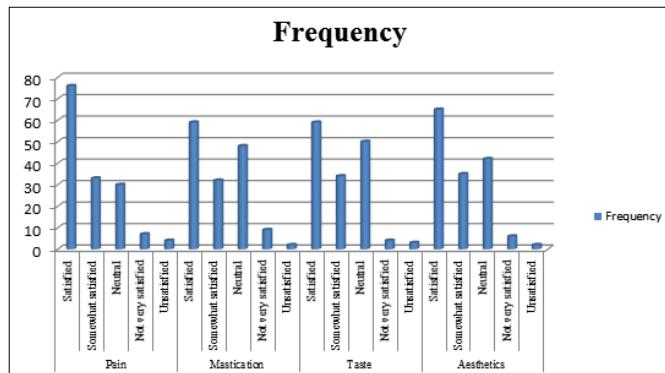


Fig 3: Patient’s perception towards wearing of FPDs

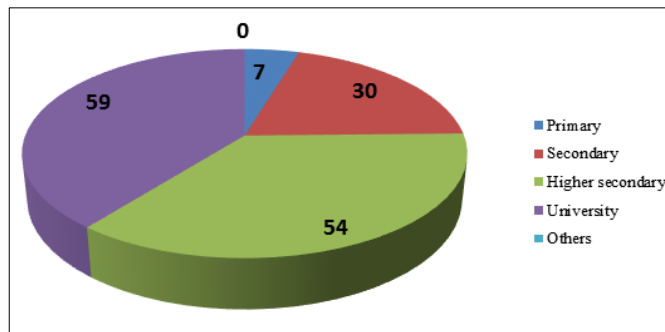


Fig 4: Level of education

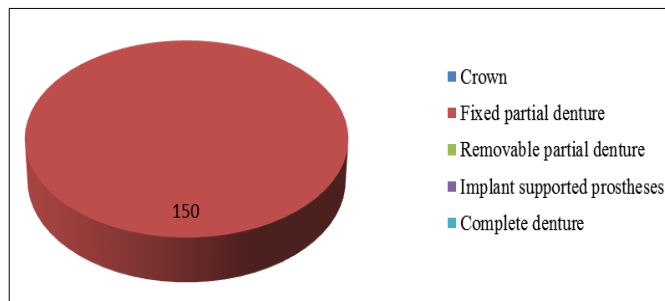


Fig 5: Have you received any

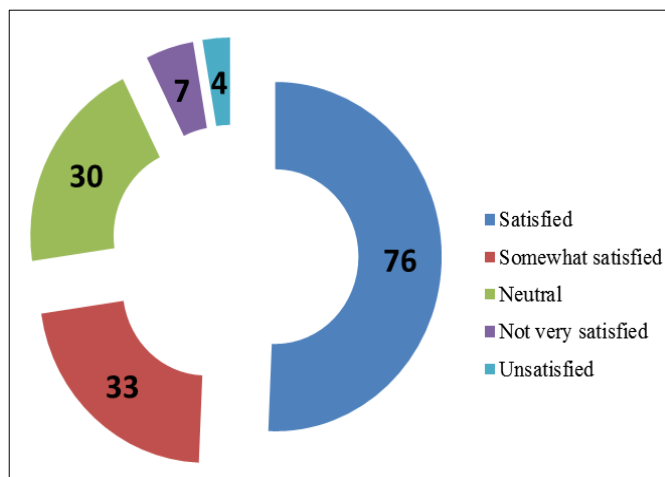


Fig 6: Do you have any pain associated with the prosthesis

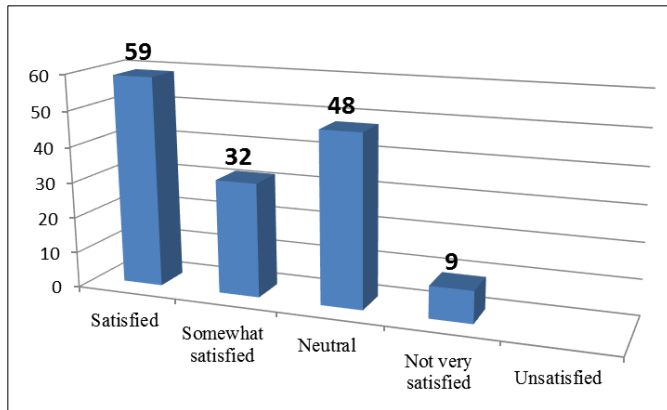


Fig 7: Are you comfortable with mastication (Chewing)

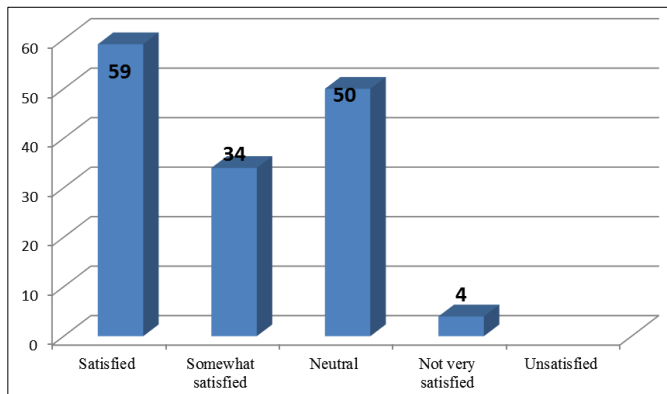


Fig 8: How you feel the taste of food with the prosthesis

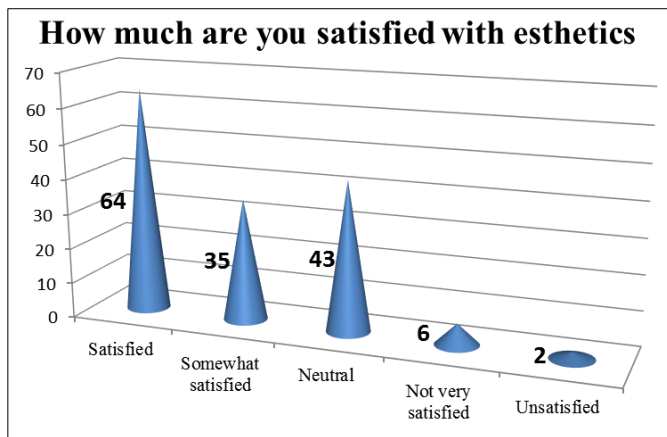


Fig 9: How much are you satisfied with esthetics (shade and appearance)

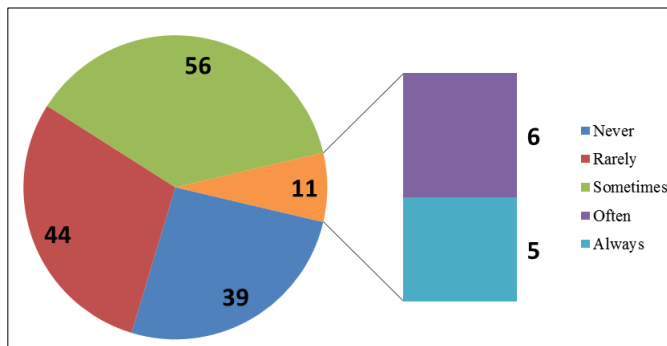


Fig 10: Did you feel any bad smell after placement of prosthesis

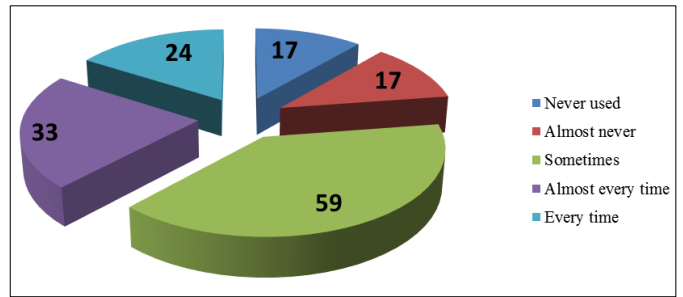


Fig 11: Do you use any interdental aids to clean your fixed prosthesis

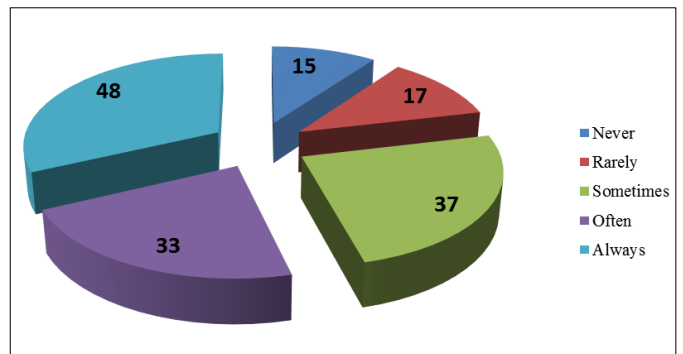
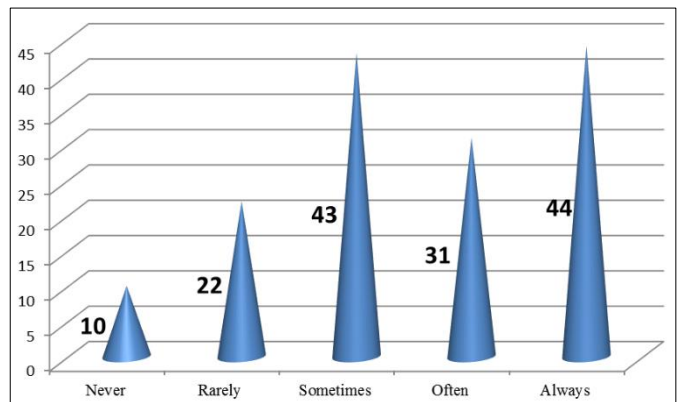


Fig 12: Have you been given advice to take care of prosthesis after placement by your dentist



Source of Support: Nil

Conflict of Interest: None declared

Fig 13: Will you recommend the same treatment to your family and friends

4. Discussion

From the past few years, there has been drastic increase in the use of FPDs for rehabilitation of patients with missing teeth. In relation to the topic of FPDs, literature quotes more than seven thousand publications [11]. However, literature quotes paucity of data analyzing the perception of the patients in relation to the clinical outcome and level of satisfaction for treatment with FPDs. Patients are shown to have been adversely affected by the edentulism and dental diseases [12]. Self-image is also altered in patients with oro-dental diseases. In the literature, majority of studies assessing the patient's perception towards wearing of partial dentures focuses of removable partial dentures [13]. Hence; we planned the present study to evaluate the satisfaction of the patients and any problem related to it after placement of FPDs in them.

In the present descriptive cross-sectional study, we investigated patients with functional FPDs. A discrete questionnaire was framed keeping in mind to cover all the functional and aesthetic aspects of the patients. A high percentage of patients in our study were middle-aged males (Fig 1, Fig 2). This suggests that males Alkharj City are more concerned regarding the replacement of missing teeth. We also observed that majority of the patient population were satisfied by their FPDs in relation to pain and mastication (Table 2) and taste and aesthetics (Table 3, Fig 3). Our results were in correlation with the results obtained by Chezian *et al.* who observed high degree of patient satisfaction in relation to use of FPDs^[14].

Ahmed *et al.* conducted a cross-sectional study and analyze 200 partially edentulous patients who underwent oral rehabilitation by removable or fixed prostheses. They evaluated the satisfaction of the patients' with the criteria of Likert scale. They assessed the level of satisfaction of the patients for factors namely phonetics, pain, mastication and aesthetics. They observed positive Likert scale score in all the factors in the patients. From the results, they concluded that a high level of satisfaction exists in patients who undergo prosthetic treatment showing the positive impact of the prosthesis on the patients' oral health^[10]. Chezian *et al.* conducted a survey on the patients who received FPD by framing a questionnaire of 16 questions. From the results, they concluded that patients are highly unsatisfied in relation to the financial obligation for the treatment^[14]. A parallel study was also completed by Ahmed and co-workers wherein the results was quite comparable with study results of Chezian *et al.* and ours^[15].

Geiballa *et al.* assessed the satisfaction of the patients receiving FPD and evaluated the status of their oral health and oral hygiene practice awareness by the means of a framed questionnaire. They assessed a total of 192 patients with FPDs, who filled the questionnaire form which included assessment of their perception regarding the aesthetics, masticatory functions, speech and clinical outcome of the prosthesis. They observed that more than eighty percent the patients of their study were satisfied by their fixed prosthesis. However, only 46.4 percent of the patients of their study had satisfaction in relation the chewing ability. Aesthetic satisfaction was observed in the fourth-fifth of their study population^[16]. From the results, they concluded that high degree of satisfaction exists in patients receiving FPDs. They also concluded that in relation the post- fixed instructions of the FPDs, patient's knowledge is insufficient.

Brennan *et al.* evaluated and compared the satisfaction and oral health-related quality of life (OHQOL) of the patients who received implant supported over-dentures and complete implant fixed prosthesis. They collected records from the database retrospectively, of the patients who underwent implant treatment over a period of six years. They analyzed the records of a total of 62 patients which met the inclusion and exclusion criteria. Examination of the patients was done with a multiple-response questionnaire which evaluated patient-centered treatment outcomes. They observed that in both implant over-denture and fixed prosthesis patients, a high degree of patient satisfaction occurs. However, a lower satisfaction rate was observed in patients receiving maxillary prosthesis of the over-denture group in relation to the chewing capacity and aesthetics. From the results, they concluded that

patients receiving over-denture were comparatively less satisfied than the patients receiving fixed prosthesis^[17]. Tan *et al.* retrospectively analyzed the satisfaction level of the patients who went oral rehabilitation by FPDs. They framed a questionnaire consisting of 15 questions based on the patients' subjective perception in relation to the FPD treatment. They assessed the patient's satisfaction levels in relation to aesthetics, mastication, speech and comfort levels. They observed that a very high levels of patient satisfaction in relation to the functional aspects of FPDs. From the result, they concluded that satisfaction for the replacement of missing teeth by FPDs existed in more than ninety percent of the patients^[18]. Yi *et al.* assessed the patient evaluation of the functional treatment outcome in forty patients with compromised periodontal status. Only patients who received implant-supported prostheses (ISPs) were included the present study. They didn't observe any significant difference in between the patient group and the control group in relation to mastication, phonetics, and aesthetics. From the results, they concluded that improvement in the satisfaction of the patients occur after rehabilitation with ISPs^[19].

5. Conclusion

From the above results, the authors concluded that patients with FPDs show a high level of satisfaction both in terms of aesthetics and function along with a positive impact of this prosthesis on the oral health of the patients. Nevertheless, the results of this study required to be compared with other studies on different population with larger sample size so as to establish certain authentic and universal guidelines in these perspectives. Results of present study must also be applied and interpreted with caution since in clinical practice as the results are restricted to the said region and for particular racial population. However; further long term studies are recommended to be conducted in future.

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