Oral Health-Related Quality of Life after Fixed Partial Denture among Patients Visiting a Tertiary Care Hospital

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ABSTRACT

Introduction: Fixed Partial Dentures (FPDs) are the most common choice for dental rehabilitation after tooth loss. These dentures can impact oral health and quality of life among patients. This study thus aims to know the oral health-related quality of life with the help of the Oral Health-related Impact Profile -14 questionnaire among the patients with FPDs in Kathmandu.

Methods: A descriptive cross-sectional study was carried out among 250 patients with FPDs in the Department of Dental Surgery, Trichandra Military Hospital. The participants were selected by convenient sampling after obtaining informed consent between April 2023 to September 2023 among the individuals with tooth-supported fixed partial dentures. The oral health-related quality of life was assessed with the help of the Oral Health-related. Impact Profile questionnaire which consists of 14 question items and is the standard tool used globally for assessing the oral health-related quality of life SPSS-16 version was used to know the distribution of various responses in each of these question items.

Results: Among 250 cases of fixed partial dentures, the maximum number of participants experiencing adverse impacts had painful aching in the mouth (11.6%), feeling self-conscious (10%), and uncomfortable eating any foods (8.8%). The distribution of severity of the adverse impacts was mostly in the none category (51.6%), little (23.6%), moderate (7.2%) and great (1.6%).

Conclusion: The distribution of severity of the adverse impact of tooth-supported Fixed partial dentures on oral health-related quality was none to little as per the oral health impact profile questionnaire-14. This is supportive of the success of fixed partial dentures in the study population.

Keywords: Fixed partial dentures; Oral health-related quality of life.

INTRODUCTION

The impact of tooth loss on an individual can have a great impact on his psychological, functional, and aesthetic aspects with diminished quality of life.[1] The restoration can be done with the help of fixed partial dentures (FPD), dental implants, or removable partial dentures.[2] This restoration will prevent pathological drifting of adjacent teeth, supra-eruption of opposing teeth, and reduced occlusal loading on the remaining teeth with enhancement of oral comfort and its function.[2] The FPDs are also one of the most preferred choices of rehabilitation in Nepal.[3] FPDs are attached to the adjacent teeth or dental implants which are also called abutments and cannot be removed by the patients.[4] The failure and complications of this tooth-supported fixed prosthesis include the loss of retention, caries, endodontic complications, periodontal disease, tooth fracture or porcelain fracture, and unsatisfactory aesthetics of the prosthesis but are not limited to these.[5-8] However, it has been reported that the majority of the patients were satisfied after fixed prostheses in a study conducted in Nepal.[4] There seems to be a lack of follow-up studies among these patients who have received the FPDs. This study thus aims to find the oral health-related quality of life among the participants living with FPDS with the help of Oral Health Impact Profile Questionaire-14 (OHIP-14). OHIP-14 consists of 14 items of impacts the responses of which are collected by the Likert scale.

METHODS

A descriptive cross-sectional study was conducted in the Department of Dental Surgery, Trichandra Military Hospital, Mahankal, Kathmandu from April 2023 to September 2023. The participants having tooth supported Fixed Partial dentures for a single tooth, multiple teeth, anterior and posterior both for more than 3 months were recruited from the outpatient dental department after getting ethical approval from the Nepalese Army Institute of Health Sciences Institutional Review Committee (Reg. No: 832). The participation was voluntary and the enrolment of the participants was after informed consent. The cases of recent FPDs or any other recent dental, oral, facial, and psychological problems were excluded from the study. A convenience sampling method was used.

A total of 250 cases of FPDs were recruited in this study. The Oral Health-Related Quality of Life was assessed with the Oral Health Impact Profile-14 questionnaire. The questionnaire has been validated amongst the Nepalese population.9 by inter-item correlation and by measuring the Cronbach's alpha value. It has 14 items of impact which include speaking clearly, sense of taste, pain, uncomfortable eating, self-consciousness, tension, unsatisfactory diet, interrupted meals, difficulty in relaxing, being embarrassed, being irritable with others, occupational role, unsatisfactory life, and inability to function. Each item of impact will be assessed using a Likert-type scale with five options: never (score 0), hardly ever (score 1), occasionally (score 2), fairly often (score 3), and very often (score 4). The outcome can vary from 0-56, the higher the summary score, the higher the level of impact on oral well-being and quality of life. The total score will also be calculated by adding up the individual scores recorded for the 14 items (additive method). The percentage of individuals responding 'occasionally', 'fairly often' or 'very often' on an item will be reported as the prevalence of adverse impact on Oral Health-Related Quality of Life. The total OHIP-14 item scores comprising all levels of response made up the measure of severity of adverse impacts caused by oral conditions and were categorized into none (0-4), little (5-9), great (15-19), and extreme (≥20).[10] The questions were printed in Nepali version and a face-to-face interview (195) and phone calls (55) were done with the OHIP-14 questionnaire by a research team member among the participants. The percentage of individuals responding to each item was calculated. The data was entered and calculated with the SPSS-16 version.

RESULTS

The total number of participants was 250. The mean age of the participants was 38.47±14.06 years with the range between 14-72 years. The responses of the participants with adverse impacts are shown in Table 1. The maximum adverse impacts were painful aching in the mouth (11.6%), feeling self-conscious (10%), and uncomfortable eating any food (8.8%).

The participants experienced no adverse impacts on relaxing, doing usual jobs, and inability to function. The maximum distribution of severity of adverse impacts was in the none category (51.6%), followed by the little category (39.6%) with no distribution in the extreme category.

Table 1: Prevalence of adverse impact among the participants

Question	Adverse impact Frequency(%)
Trouble pronouncing any words	3 (1.2)
Worsening taste	3 (1.2)
Painful aching in mouth	29 (11.6)
Uncomfortable eating any foods	22 (8.8)
Felt self-conscious	25 (10)
Felt tense	1 (0.4)
Diet has been unsatisfactory	10 (4)
Had to interrupt meals	15 (6)
Difficult to relax	0 (0)
Been a bit embarrassed	4 (1.6)
Been a bit irritable with others	2 (0.8)
Had difficulty doing usual jobs	0 (0)
Less satisfying life in general	5 (2)
Been unable to function	0 (0)

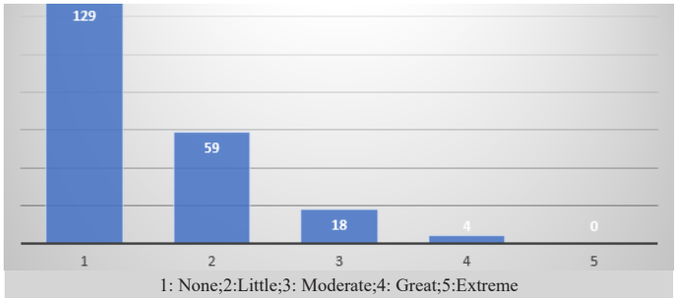

Figure 1: Severity of adverse impacts among the participants with FPD

DISCUSSION

This study was conducted to analyse the oral health-related quality of life after tooth-supported Fixed Partial dentures. The study population had been using FPDs for more than 3 months and Oral Health Impact Profile-14 questionnaire

was used to know the oral health-related quality of life. The prominent adverse effects were seen among questions related to painful aching in the mouth (11.6%), feeling of self-consciousness (10%), and uncomfortable in eating any foods (8.8%). The items like difficulty in relaxing, difficulty in doing usual jobs, and inability to function were never or hardly ever experienced by the participants. Most of the responses of the participants in the other question items also belonged to the category with no adverse effects. The severity of adverse effects was predominantly in the none category (51.6%) with moderate severity in 7.2% and no distribution in the extreme category.

Similar attempts to study the satisfaction among patients after fixed prostheses were done previously in Nepal as well. This study has not included the OHIP-14 questionnaire. However, it has reported 79.4% satisfaction with the chewing ability, 97.1% satisfaction with speech, and an overall satisfactory rate being 85.3%. The study regarding quality of life after FPDs has not been studied much in Nepal.[4] It has been asserted that the level of satisfaction of both the clinician and patient has to be taken into consideration to know its impact on quality of life.[10] A longitudinal study conducted in Macedonia reported that the oral health-related quality of life after 1 year of FPD among the cases was similar to the healthy individuals with a very satisfactory impact of this kind of dental appliance.[11] The OHIP score was low indicating satisfaction among the patients wearing FPDs in a study conducted in the United Kingdom. The participants after tooth supported Fixed Partial dentures experienced self-consciousness and meal interruptions in this study which was similar to our study.[12] Similarly, the quality of life was equally improved in both age groups (≤60, ≥60) with the use of FPDs in a similar study using the OHIP-49 questionnaire.[13] The quality of life was better in Implant supported Fixed Partial Dentures as supported by many literatures.[14,15,] The literature also suggests that tooth-related FPDs and Implant-related FPDs had no difference in Oral Health-Related Quality of Life.[12] This kind of comparative study can further be done in Nepal. This study had study participants belonging to different age groups, living styles, and health conditions and with different periods of using tooth-supported FPDs of different units and locations which can alter the response in the Oral Health Impact Profile 14 questionnire Similarly, studies taking into consideration participants with similar backgrounds and histories of FPDs can be considered in future studies. A pre-treatment assessment can also provide additional information for similar studies.

CONCLUSION

This study has concluded that pain, self-consciousness, and uncomfortable in eating any foods were prominent among the participants with FPDs. The severity of the adverse impact was none too little. This can be suggestive of the success of oral rehabilitation by tooth-supported FPDs. However, the choice regarding the tooth-supported FPDs is based on the patient's choice and the doctor's expertise.

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