



Prosthetic Needs in Patient after Tooth Extraction in South Indian Population

Anas Bin Rosli^{BDS^a}, Ashish.R.Jain^{MDS, MD.ACU.VARMA^a}

^a Second Year, Department of Prosthodontics, Saveetha Dental College and Hospital, Chennai, India.

^b Research Scholar, Reader, Department of Prosthodontics, Saveetha Dental College and Hospitals, Saveetha University, Chennai, India.

Abstract

Background:

Tooth loss can cause many changes to an individual, it can be functional, aesthetic, psychological and social impact changes. Patient choices on receiving prosthodontic after tooth extraction can vary accordingly. Factors such as location of absent teeth, age, gender, impaired function, discomfort and dissatisfaction with appearance plays important role in decision making. This study is to assess prosthodontic needs in patient after tooth extraction.

Aim:

The Purpose of this study is to assess prosthodontic needs in patients after tooth extraction in south Indian population

Material and Methods:

A questionnaire was developed to elicit this information on prosthodontic needs, it includes three parts, patient's details, questions on treatment details and questions on feedback after extraction for 100 samples. Patients with third molar extraction, extraction of multiple teeth, extraction for orthodontic purpose and patients who have already been exposed to wearing prosthodontics were excluded from being assessed. .

Result:

Out of 100 patients, 35% opted for removable partial denture (RPD) while 48% opted for fixed partial denture (FPD) and only 17% opted for implants to replace the missing tooth.

Conclusion:

In the present study, all the respondents desired prosthetic rehabilitation for their lost natural tooth. It is found that 65% of them opted for fixed replacements and 35% opted for removable replacements.

Keywords: Extraction, tooth loss, removable partial denture, fixed partial denture, implants, prosthesis

INTRODUCTION:

The goal of modern prosthodontic in dentistry is to restore normal function, comfort, aesthetic, speech, and health to individuals who are missing teeth. Given that our population is both aging and dental caries, an increasing number of people are being affected by the extraction of irrecoverable tooth^[1]. However, the more the teeth in the same person is missing, the more challenging this task can become. As a result of continuous research developing various innovative ways of treatments, predictable success is now a reality in many challenging dental situations. Patient's need for prosthodontic are determined by a sort of functional, aesthetic, psychological and social impacts due to tooth loss^{[1][2]}. But not all patients with incomplete dental arch need treatment take into account that their condition as harmful or with consequences after tooth extraction^[3]. Location of absent tooth, age, gender, function, discomfort and dissatisfaction with appearance and financial factors influence the treatment needs and the choice for prosthesis to replace the missing tooth^[4]. It was hypothesized that the need and desire for replacement of the missing tooth are greater at the time of tooth loss^[5]. This study is to assess patient's prosthodontic needs after tooth extraction.

MATERIAL AND METHODS:

A questionnaire was developed to elicit this information. The survey includes questions on patient's details, treatment details and questions on patient's short term feedback after the procedure. A short term prospective cohort study was designed. Data were collected after the extraction has been done and after showing a video footage on treatment options to patient which is before opting the type of prosthesis to replace the missing extracted tooth. Random patients who walk in to the hospital for extraction of tooth due to various reasons such as dental caries with pulpitis, mobile tooth, periodontally compromised tooth were selected with exception of third molar extraction, extraction of multiple teeth, extraction for orthodontic purpose and patients who have already been exposed to wearing prosthodontic. Clinical examination was performed at the tooth extraction appointment. General information such as age, gender, state of origin and income were taken as patient's details. Patient's prosthodontic need was examined by questionnaire that include questions about functional, aesthetic and psychological impacts associated to tooth loss and need of prosthodontic treatment.

spend big for the best treatment (Figure 4). About 92% of patients had chewing difficulties after extraction and 8% of patients do not suffer chewing difficulties (Figure 5). Based on patients' perception, 12% of patients replace missing tooth for appearance, 73% opted prosthesis to proper chewing function while 10% of patients care for a better smile and 5% of them want to restore proper speech (Figure 6). The patients main reason for opting prosthesis were because it is affordable by 47% of patients, 5% of patients knew somebody with the same prosthesis, 36% of patients chose the prosthesis from dental advice and 12% of patient had done research on the choice of prosthesis from the internet (Figure 7). After a video demonstration on the RPD, FPD and implant, 86% of patients are confident on their choice of prosthesis while 14% of patients were still not confident (Figure 8). Chi test revealed differences in the importance of replacing missing tooth ($p=0.02$), and confidence level of appearing in crowd ($p=0.04$), and money spending for treatment ($p=0.08$), and chewing difficulties ($p=0.05$), and the idea of importance in missing tooth replacement ($p=0.07$), and the main reason of prosthesis opted ($p=0.08$) and confidence level in choosing the prosthesis is ($p=0.01$).

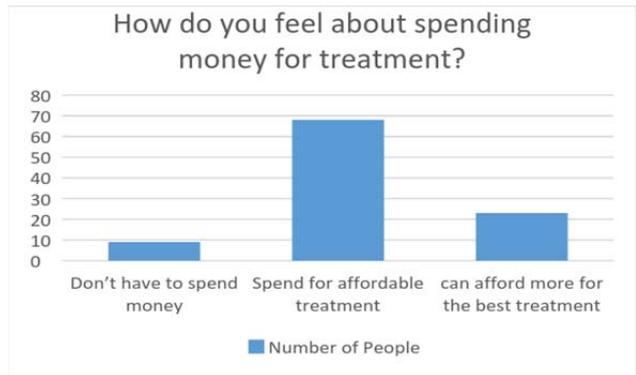


Figure 4 Patients' perception on treatment expenditure

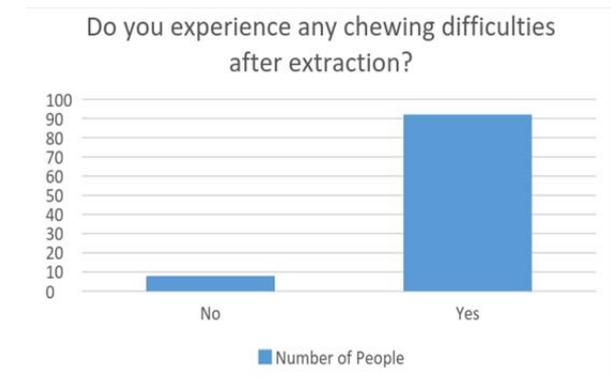


Figure 5 Chewing difficulties in patients after tooth extraction

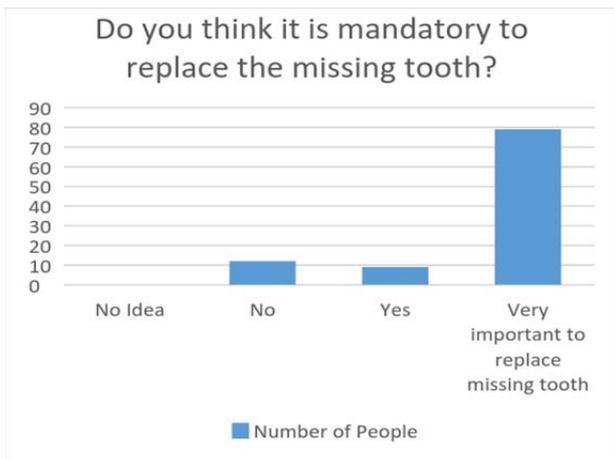


Figure 2 Patients perception on importance of replacing the missing tooth

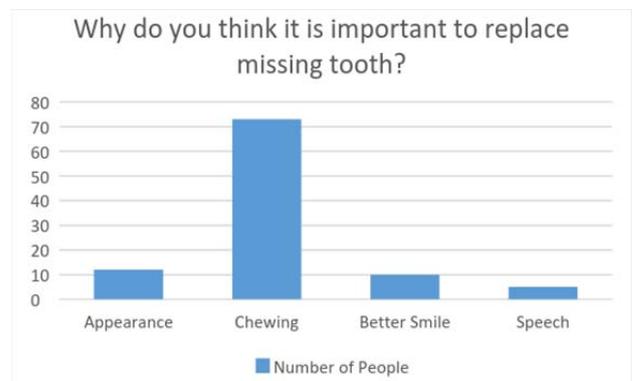


Figure 6 Patients' objective on missing tooth replacement

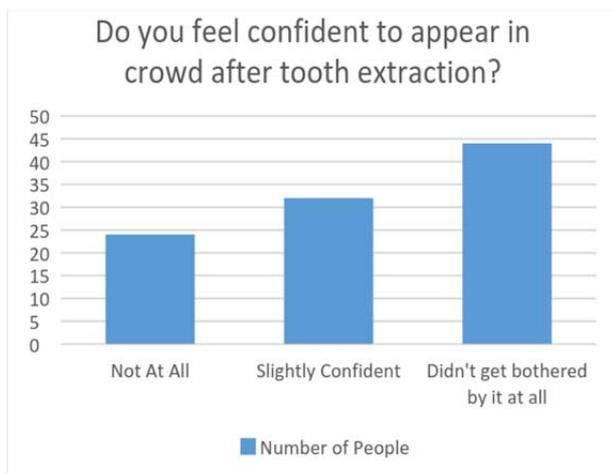


Figure 3 Patients' confidence for public appearance after tooth extraction

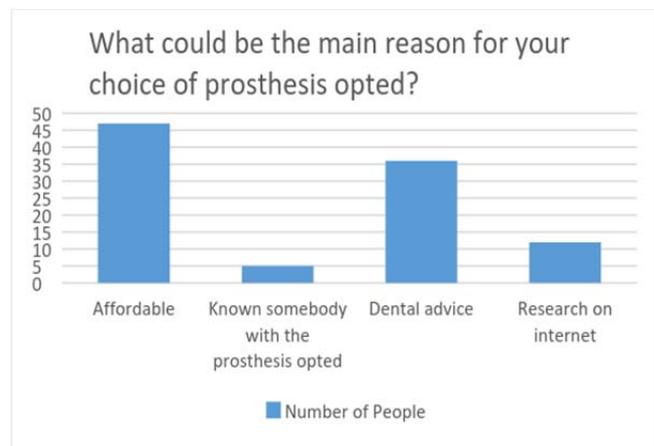


Figure 7 Patients' reason for choice of prosthesis opted

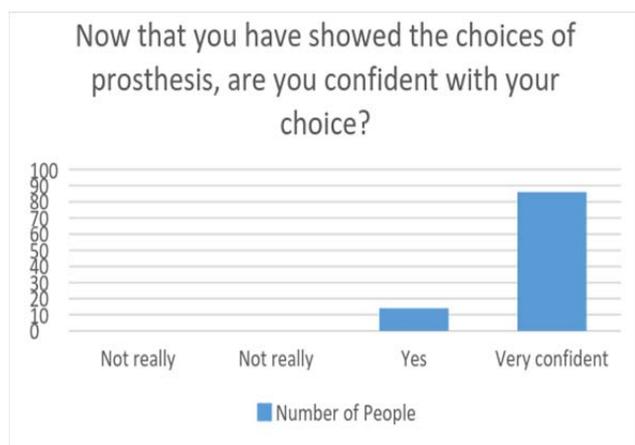


Figure 8 Patients' confidence with the choice of prosthesis opted

DISCUSSION:

Good oral health provides more than just healthy teeth. It holds an individual's quality of life and serves as a factor for social, economic and personal development^[6]. Teeth are required for proper speech, mastication, esthetics, structural balance and comfort for an individual^[7]. With the loss or missing teeth, the functions are impaired and physically and physiologically traumatized of individual^{[8][9]}. Extraction of teeth is the most common procedure carried out in oral surgery clinics that results in edentulous space in dental arch^[10]. We live in a social world and our looks influence interaction of others with us. Face and smile play an important role in the creation of emotional significance and maintenance of positive attitude in one's self towards another^[11]. Attitude towards tooth loss changes in different age group. Adults have greater concern about their dental health than children^[12]. From the study, it can be seen that most subjects were aware of the needs of dentures^[13]. This may be due to the increase in technology, media and healthcare awareness conducted by government. When being asked about the money expenditure for dental treatment, majority gave economic reasons, to opt the choice of affordable prosthesis. This is also the main reason the subjects, mainly from Tamil Nadu to walk into dental college for treatment instead of private dental clinics. Dental college provides treatment at much lower cost compared to private clinics which help to reduce financial burden for a prosthetic replacement^[14]. This also explains the reason of implant to be the least popular choice among all prosthesis, based on the survey. Fixed partial denture (FPD) is mostly chosen because patients always walk into clinics to remove caries present while the dental practitioners make sure the abutments are free of caries and the least prone for infection. The main consequences after tooth extraction are aesthetics and chewing ability impair^[15]. Most feedback showed that subjects don't get bothered to appear in crowd after tooth extraction. This is due to subjects are aged and having low aesthetic care because they simply do not have to. Meanwhile young adult subjects reportedly do not have much courage to appear in crowd due to their impaired looks^[16]. However, almost all people suffer chewing difficulties after tooth extraction because each tooth in the dental arch are

uniquely designed to serve their function in chewing. The eight most front teeth are called incisors and they allow a person to bite and cut food^[17]. Incisors slice food with their sharp edges. The part of the teeth that people use to tear food are known as canines, each having a sharp cusp capable to grasp and retain food^[17]. Premolars are located at the back of the canines, and they are designed to hold, chew and grind food^[18]. Humans have two premolars on the upper section of the mouth and another two on the lower jaw^[18]. The rest are called molars, to assist in chewing and crushing food^[19]. The demand for replacement of missing teeth is strongly related to restore chewing function rather than for speech while appearance is importance for some with job requirements and to appear in crowd.

CONCLUSION:

The present results may serve as a baseline for the future evaluation of choices for prosthesis and attitudes towards replacement of teeth. The findings indicate that awareness needs to be created regarding the other functions of teeth like aesthetic and phonetics because many subjects in this study were only aware of the masticatory function performed by teeth, especially among individuals in the lower socioeconomic group.

REFERENCES:

- Levinson NA. Psychological facets of esthetic dental health care: a developmental perspective. *J Prosthet Dent* 1990;64:486-91.
- Roessler DM. Complete denture success for patients and dentists. *Int Dent J* 2003;53:340-5.
- Omar R, Tashkandi E, Abduljabbar T, Abdullah MA, Akeel RF. Sentiments expressed in relation to tooth loss: a qualitative study among edentulous Saudis. *Int J Prosthodont* 2003;16:515-20.
- Fiske J, Davis DM, Frances C, Gelbier S. The emotional effects of tooth loss in edentulous people. *Br Dent J* 1998;184:90-3.
- Al Quran F, Clifford T, Cooper C, Lamey PJ. Influence of psychological factors on the acceptance of complete dentures. *Gerodontology* 2001;18:35-40.
- Petersen, P. E. (2003). The World Oral Health Report 2003: continuous improvement of oral health in the 21st century—the approach of the WHO Global Oral Health Programme. *Community Dentistry and oral epidemiology*, 31(s1), 3-24.
- Shigli, K., Hebbal, M., & Angadi, G. S. (2007). Attitudes towards replacement of teeth among patients at the Institute of Dental Sciences, Belgaum, India. *Journal of dental education*, 71(11), 1467-1475.
- Chauncey, H. H., Muench, M. E., Kapur, K. K., & Wayler, A. H. (1984). The effect of the loss of teeth on diet and nutrition. *International Dental Journal*, 34(2), 98-104.
- Helkimo, M. (1974). Studies on function and dysfunction of the masticatory system: IV. Age and sex distribution of symptoms of dysfunction of the masticatory system in Lapps in the north of Finland. *Acta odontologica scandinavica*, 32(4), 255-267.
- Chen, S. T., Wilson Jr, T. G., & Hammerle, C. H. (2004). Immediate or early placement of implants following tooth extraction: review of biologic basis, clinical procedures, and outcomes. *Int J Oral Maxillofac Implants*, 19(19), 12-25.
- Allen PF, McMillan AS. A review of the functional and psychosocial outcomes of edentulousness treated with complete replacement dentures. *J Can Dent Assoc* 2003;69(10):662.
- Klages, U., Bruckner, A., & Zentner, A. (2004). Dental aesthetics, self-awareness, and oral health-related quality of life in young adults. *The European Journal of Orthodontics*, 26(5), 507-514.
- Tervonen, T. (1988). Condition of prosthetic constructions and subjective needs for replacing missing teeth in a Finnish adult population. *Journal of oral rehabilitation*, 15(5), 505-513.
- George, A. C., Hoshing, A., & Joshi, N. V. (2007). A study of the reasons for irregular dental attendance in a private dental college in a

- rural setup. *Indian Journal of Dental Research*, 18(2), 78.
15. Vignoletti, F., Matesanz, P., Rodrigo, D., Figuro, E., Martin, C., & Sanz, M. (2012). Surgical protocols for ridge preservation after tooth extraction. A systematic review. *Clinical Oral Implants Research*, 23(s5), 22-38.
 16. Klages, U., Claus, N., Wehrbein, H., & Zentner, A. (2006). Development of a questionnaire for assessment of the psychosocial impact of dental aesthetics in young adults. *The European Journal of Orthodontics*, 28(2), 103-111.
 17. Parfitt, G. J. (1961). The dynamics of a tooth in function. *Journal of Periodontology*, 32(2), 102-107.
 18. Molnar, S. (1971). Human tooth wear, tooth function and cultural variability. *American Journal of Physical Anthropology*, 34(2), 175-189.
 19. Kono, R. T., Suwa, G., & Tanijiri, T. (2002). A three-dimensional analysis of enamel distribution patterns in human permanent first molars. *Archives of Oral Biology*, 47(12), 867-875.