

Age and its Influence on the Preference of Various Fixed Prosthetic Treatment Modalities in Partially Edentulous Patients

Dr. Geetha K.R. M.D.S¹, Dr. Prabhu M.D.S², Dr. Tazyeen Sarwath B.D.S³, Dr. Kesavan M.D.S⁴

Thai Moogambigai Dental College and Hospital, Dr. M.G.R. Educational and Research Institute, (Deemed To Be University), Chennai

Abstract: Aim: The aim of this survey was to assess the preferences of the partially edentulous patients towards fixed partial denture (FPD) or implant, based on their age and attitude. Material and Methodology Used: The survey was conducted in our private dental college in Chennai, Tamilnadu among 90 partially edentulous patients, who were divided into three age groups (group 1-<30 years of age), (group 2 =32-50 years of age), (group 3: >50 years of age) and given a questionnaire comprising of a total of 15 questions asking assessing their preferences towards FPD or implant. The questionnaire was manually distributed; data was collected and statistically analyzed. Results: The results of this survey concluded that among the 90 patients chosen about 43.3% of them have opted for fixed partial denture, 35.6% opted for implant prosthesis and around 21.1% of them weren't interested in replacement. Conclusion: This study concludes that the age and attitude do influence the partially edentulous patients in selecting between FPD or implant. This survey also shows us that as age increases people get ignorant towards replacing their teeth no matter what the reason may be. And if they are willing to replace it they very much prefer fixed partial dentures (FPD) over implants.

Keywords: Prosthodontics, partially edentulous patients, age, fixed partial denture, implant and attitude

1. Introduction

Partially edentulous patient is the one missing a few but not all teeth. This condition is caused by caries, periodontal problems, trauma, neoplastic and cystic lesions, presence of supernumerary teeth etc ^[1]. Among the above reasons, caries and periodontal diseases were found to be the most probable cause in several cases ^[2]. There are several drawbacks to the patient due to long term partial edentulousness including both clinical and lifestyle problems. The clinical compromises are drifting of the adjacent tooth into the edentulous space, supraeruption of the opposing tooth, speech alterations, and difficulty in mastication, changes in facial appearance, esthetic deficiencies and TMJ disorders. The lifestyle problems thus faced by the patient are lack of confidence and nutritional defects caused due to the inability of the patient to chew leading to weight loss and psychosocial problems ^[1, 2].

The partially edentulous arches can be broadly classified by various methods like KENNEDYS, APPLLEGATES, AVANT, EICHNER etc but Kennedys classification is most commonly accepted by the dental community ^[3]. According to Kennedy's classification partially edentulous arches can be classified into four types as Class I, Class II, Class III and Class IV ^[4].

Replacement of these missing teeth is a common need for these patients. In this era as the life expectancy of an individual is increased the need for replacement of teeth is also increasing ^[5]. Nowadays with increasing age there is a massive decrease in the mean number of teeth ^[6] and thus several treatment modalities were made available for the replacement of lost teeth such as removable partial denture, dental implant and fixed partial denture (FPD). Each of them is a possible treatment option and has its own advantage and disadvantage ^[7]. Several different factors are responsible for the selection of these options and depend on each

individuals need. In many cases if more than one option is available for replacement then the choice of selection lies in the patient's decision. The basic factors influencing the patient to select would be financial stability, gender, age, awareness of the importance of replacement, dental phobia and anxiety ^[7].

RPD is indicated in patients with financial instability, as a provisional prosthesis to improve oral hygiene, to eliminate the biomedical and pragmatic issues of implant prosthesis and in replacement of long span edentulous spaces in which the prognosis of fixed prosthesis is poor ^[8]. The disadvantages would be difficulty in speech, pain on mastication, esthetic problems, brittle dentures etc ^[9]. The advantage of FPD includes high strength of the crowns, reasonable esthetics, easy maintenance etc and the major disadvantages are high cost of the bridges and inclusion of the adjacent teeth ^[10]. Implant prosthesis has its advantages like high success rates, survival rates and longevity with disadvantages like high cost ^[11].

A lot of studies have been done on patient's preference for FPD or implant based on the gender and patients expectations ^[12]. Since not many studies have been done based on the age the current study is unique and assess the preferences of the patients based on their age. The patients are divided into three age groups as young adults, adults and old age people.

2. Materials and Methodology Used

A cross sectional study was conducted among the patients visiting our dental op in a private dental college in Chennai, Tamilnadu. A self administered questionnaire consisting of 15 questions was prepared to obtain information about the attitude and preferences of partially edentulous patients who visited our college towards the fixed prosthetic treatment modalities like FPD or implant .A total of 90 partially

edentulous patients, of three different age groups were chosen as the participants. 30 patients were from the age group of < 30 years, 30 from the age group 31-50 years and 30 from the age group of >50 years. The exclusion criteria included:

- Completely edentulous patients.
- Patients with distal extension.
- Mentally or physically challenged patients.
- Patients below the age of 15 years.

The data was collected and statistically analyzed.

3. Results

This study showed according to their age and attitude, the preferences of partially edentulous patients towards FPD or implant.

The results of this survey concluded that among the 90 patients chosen about 43.3% of them have opted for fixed partial denture, 35.6% opted for implant prosthesis and around 21.1% of them weren't interested in replacement.

The 90 patients were divided into three groups based on their age as,

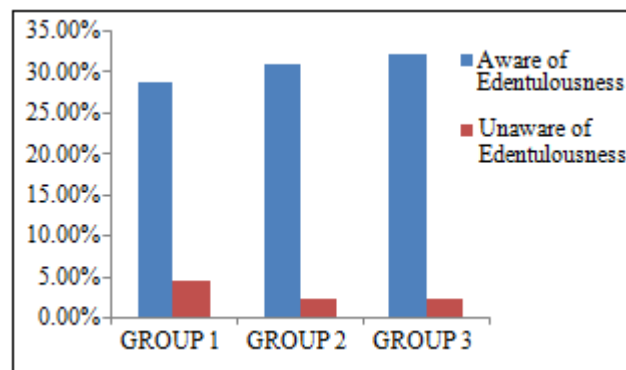
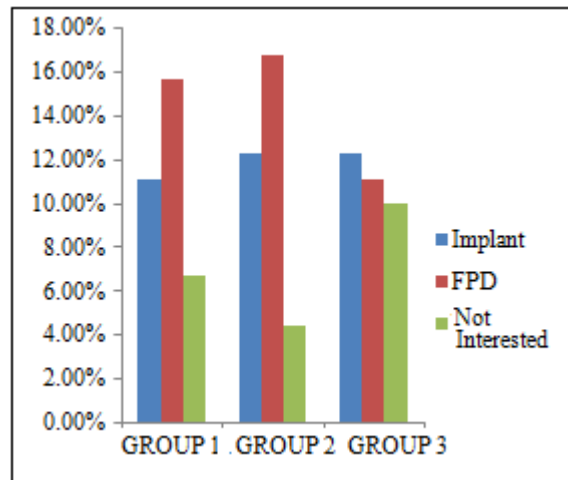
- Group 1: <30 years of age (33.3%)
- Group 2: 30-50 years of age (33.3%)
- Group 3: >51 years of age. (33.3%)

In group 1 among the 33.3% of patients who participated in the study, 15.6% have opted for fixed partial denture while 11.1% have chosen implant prosthesis as their choice of treatment modality and 6.7% didn't want a replacement.

In group 2 among the 33.3% of patients who took the survey 16.7% wanted fixed partial denture while 12.2% wanted implant prosthesis and 4.4% were not interested in replacement.

In group 3 amongst the 33.3% of patients who took the survey 12.2% of them wanted implant, 11.1% preferred fixed partial denture and 10% were not interested in replacing their lost teeth.

This survey showed that among the 33.3%, the old age patients (group 3) and young adults (group 1) showed the most indifferent attitude with their replacement, whereas the adult (group 2) were philosophical and exacting in their preference.



Questionnaire

Thai Moogambigai Dental College and Hospital,
Department of Prosthodontics
People's Choice: Implant Or FPD



Age: Gender: Occupation

- 1) Are you aware of the missing teeth in your mouth?
a) Yes b) no c) no comment
- 2) Do you remember how long it has been since you lost your teeth?
a) Less than five years b) more than five years c) don't remember
- 3) Are you aware of the cause of your tooth loss?
a) Caries b) shaking teeth c) don't remember
- 4) Have you had any prior treatment to replace the missing teeth?
a) Yes b) no c) not interested
- 5) If yes, how would you describe the experience?
a) Poor b) good c) excellent
- 6) If no, how would you prefer to replace the missing teeth?
a) Removable teeth set b) fixed teeth set c) not interested
- 7) Do you feel that fixed appliances are affordable?

- a) Yes b) no c) don't know
- 8) If yes would you prefer to replace the missing teeth?
a) Yes b) no c) not interested
- 9) Are you aware of the implant/screw replacement treatment?
a) Yes b) no c) not interested
- 10) If yes would you prefer an implant over an FPD?
a) Yes b) no c) not sure
- 11) If yes, why do you think implant is better?
a) Long lasting replacement b) more effective c) no need to involve the adjacent teeth
- 12) If no, why do you think FPD is better?
a) Less cost b) no surgery required c) less time consuming
- 13) Which do you is easy to maintain?
a) implant b) FPD c) not interested in replacement
- 14) Which do you think has more chances of failure?
a) implant b) FPD c) not interested in replacement
- 15) If given an option what would you choose?
a) implant b) FPD c) not interested in replacement.

4. Discussion

This study was conducted to assess how the attitude and age of the partially edentulous patients influenced them to decide among the various fixed prosthesis treatment modalities for the replacement of their lost teeth. It was found in the study that with increase in age there was a decrease in awareness and knowledge regarding the various fixed prosthesis modalities.

In group 1 among the 33.3% of young adult patients who participated in the 15.6% have opted for fixed partial denture (for its absence of any surgical procedures) while 11.1% have chosen implant prosthesis (for its long lasting replacement) as their choice of treatment modality and 6.7% didn't want a replacement. 28.9% were aware and conscious about their edentulousness whereas the remaining 4.4% were not interested showing their indifferent attitude. About 25.6% knew about implant supported prosthesis whereas 4.4% didn't have a clue unless explained to them and the rest were not interested in replacement. Amongst them 18.8% thought that implant would have the highest failure chances while the rest thought that FPD prosthesis would show earlier failure. The presence of surgical procedures (dental anxiety and phobia) in implant prosthesis is the major reason for this group of patients to prefer FPD. . Another study showed that about 47% of the adult patients of the age group of 30-34 years were afraid to visit the dentist showing the high prevalence of dental phobia^[13].

In group 2 among the 33.3% adult patients who took the survey 16.7% wanted fixed partial denture (for its least cost) while 12.2% wanted implant prosthesis (for its long lasting replacement) and 4.4% were not interested in replacement. 31.1% were aware and conscious about their edentulousness whereas the remaining 2.2% were not interested or were not aware of their lost teeth showing the high level of esthetic and oral health awareness among the young adults. About 25.6% could afford fixed partial denture, 5.6% thought that they couldn't and the rest didn't want a replacement. About 14.4% knew about implant supported prosthesis whereas 17.8% didn't have a clue unless explained to them and the

rest were not interested in replacement. In another study conducted by Suleiman al johany et al showed that about 66.4% were aware of dental prosthesis as an option for replacement of teeth and high cost of the prosthesis and the surgical procedures were the ones persuading the patient towards other modalities rather than implant^[14]. Yet another study conducted by Md Sirajur Rahman in Hyderabad, India, showed that among the age groups of 21-65 years it was concluded that only about 56.6% of them were aware of FPD and 13.3% of implants, showing the low awareness among the people towards various fixed treatment modalities^[15].

In group 3 among the 33.3% older patients who took the survey 12.2% of them wanted implant (for its long lasting replacement) 11.1% preferred fixed partial denture (for its less cost) and 10% of them were not interested in replacing their lost teeth. 31.2% were aware and conscious about their edentulousness whereas the remaining 2.2% were not interested or were not aware of their lost teeth showing the indifferent attitude. About 22.2% could afford fixed partial denture, 6.7% thought that they couldn't and the rest didn't want a replacement. About 21.1% knew about implant supported prosthesis whereas 5.6% didn't have a clue unless explained to them and the rest were not interested in replacement. Amongst them 8.9% thought that implant would have the highest failure chances while the rest thought that FPD prosthesis would show earlier failure.

Overall this survey shows that along with the age and attitude of the patient, the low awareness of fixed prosthesis as a treatment modality also plays a major role in influencing people for replacement of their lost teeth.

5. Conclusion

This survey concludes that the age and attitude do play an important role in the decision making for the replacement of lost teeth. Based on the results obtained it can be concluded that in the young adults population there is high preference of FPD over implant prosthesis mainly due to the reason of elimination of surgical procedures. This shows the fear and anxiety among the youngsters towards surgical procedures.

In the adults and older patients there is more preference towards FPD as its procedures are less time consuming and more economical than implants showing that financial stability and time play an important role.

Based on the attitude it can be seen that young adults (group 1) are indifferent towards teeth replacement as they are confident about spending life with the remaining teeth. They do not want any replacement unless esthetics is involved. Meanwhile the attitude in the adults (group 2) is far more philosophical and exacting as they are more aware of their looks and appearance. The older patients (group 3) show the most ignorance and indifference towards replacement, behaving hysterically as they do not want to spend so much of money on replacing teeth, and want to live their lives with whatever teeth remaining.

This study shows us that as age increases people get ignorant towards replacing their teeth no matter what the reason may

be. And if they are willing to replace it they very much prefer fixed partial dentures (FPD) over implants. This study also shows that ignorance towards replacement of teeth is also majorly due to the lack of awareness about the various treatment modalities among partially edentulous patients. So steps should be taken to educate every possible patient about the various fixed prosthesis available for the replacement and guide them towards selecting the best available option.

- [15] Dental patients' awareness and knowledge in using dental implants as an option in replacing missing teeth: A survey in Riyadh, Saudi Arabia Author links open overlay panel Sulieman Al-Johany^a Hamad A. Al Zoman^b Mohannad Al Juhaini^c Mohannad Al Refeai^c
- [16] Awareness and knowledge of various options for treatment of missing teeth in patients at a speciality dental hospital in Hyderabad, India Md Sirajur Rahman

References

- [1] Muneeb A. Causes and pattern of partial edentulism/exodontia and its association with age and gender: semi rural population, Baqai Dental college, Karachi, Pakistan. *Idjsr*. 2013;1(3):13–18.
- [2] Zaigham AM, Muneer MU. Pattern of partial edentulism and its association with age and gender. *Pakistan Oral and Dental Journal*. 2010;30(1):260–63.
- [3] McGarry TJ, Nimmo A, Skiba JF, Ahlstrom RH, Smith CR, Koumjian JH, et al. classification System for Partial Edentulism. *J Prosthodont*. 2002;11:181–93. [PubMed]
- [4] Naveed H, Aziz MS, Hassan A, Khan W, Azad AA. Patterns of Partial Edentulism among armed forces personnel reporting at armed forces institute of dentistry Pakistan. *Pakistan Oral and Dental journal*. 2011;31(1):217–21.
- [5] Brown LJ. Trends in tooth loss among U.S. employed adults from 1971 to 1985. *J Am Dent Assoc*. 1994;125(5):533–540. [PubMed]
- [6] Oral health status and treatment needs of geriatric population of old age homes of Chennai city, India AV Mary, AVR Ebenezer, P Chaly, N Ingle, VC Reddy *Journal of Oral Health Research* 1 (2), 82-87
- [7] Christensen GJ: Elective vs. mandatory dentistry. *J Am Dent Assoc*. 2000, 131 (10): 1496-8.
- [8] Udoye CI, Oginni AO, Oginni FO: Dental Anxiety among Patients Undergoing Various Dental Treatments in a Nigerian Teaching Hospital. *J Contemp Dent Pract*. 2005, 2 (6): 091-098.
- [9] T.J. McGarry, A. Nimmo, J.F. Skiba, R.H. Ahlstrom, C. R. Smith, J.H. Koumjian Classification system for complete edentulism. *The American College of Prosthodontics J Prosthodont*, 8 (1999), pp. 27-39
- [10] A. Shams, S. Tavanafar, M.R. Dastjerdi, K.A. Chaijan **Patient satisfaction and complication rates after delivery of removable partial dentures: a 4-year retrospective study**
- [11] Tatarciuc MS, Vitalariu AM, Diaconu D. Aesthetic goals in porcelain fused to metal prosthetic appliances. *Rev Med Chir Soc Med Nat Iasi*. 2008;112(2):517-521.
- [12] Hjalmarsson L, Gheisarifar M, Jemt T. A systematic review of survival of single implants as presented in longitudinal studies with a follow-up of at least 10 years. *Eur J Oral Implantol*. 2016;9(Suppl 1):S155–62.
- [13] Patients' expectations to dental implant: a systematic review of the literature Jie Yao, Hua Tang, Xiao-Li Gao, Colman McGrath, and Nikos Mattheos **NCES:**
- [14] **Dental fear among population aged 30 years and older in Finland Satu Lahti, Miira M. Vehkalahti, Anne Nordblad & Hannu Hausen**