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ASSESSMENT OF PATIENT UNDERGOING TEMPORARY PARTIAL DENTURE TREATMENT - A RETROSPECTIVE STUDY

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ABSTRACT

The aim of the study was to evaluate the frequency of Temporary Partial Dentures (TPD) in the patients undergoing treatment for partial edentulism. This study was an institution based analysis carried out in university hospitals located in south India. The study was carried out by collecting the data of patients undergoing TPD treatment from the months of June 2019-March 2020, the collected data were analysed and tabulated. The total number of patients who received TPD were 1095. The results showed males (619 patients) prefer TPD treatment more than females (476 patients) and patients between the age group of 41-50 years prefer TPD prosthetic treatment. Within the limitations of the study it can be concluded that more number of male patients underwent replacement of missing teeth with TPD than females. Majority of the TPD patients were in the age group of 41 to 60 years. With the increase in age, the number of patients who underwent replacement of missing teeth with TPD significantly increased among male and female population. Among the female population the trend decreased after 50 years of age and among males the trend decreased after 60 years of age.

Keywords: Age, Gender, Removable Partial Denture, Prosthetic replacement, Temporary partial denture

INTRODUCTION

Teeth play an important role in the daily routine of an individual like mastication of food, speech and smile. Even though Dental caries and periodontal problems are major causes for dental visits among the public [1–5], missing tooth (edentulism) is considered as the third most common cause for dental visits among the public [6]. The primary function of the human teeth is to mechanically break down the food by grinding, crushing and cutting them for making it easy to swallow, digest and excrete [7]. The presence of teeth and its associated structures play an important role in the maintenance of overall well-being of a person. When there is a loss of teeth, the need arises to replace the missing teeth [8]. In selecting replacement options the Temporary partial denture (TPD) remains the primary form of dental restoration in the general population, since it is one of the cheapest treatment options for patients who are unable to afford treatment with implants either due to anatomical or economic reasons [9–11]. TPDs are an acceptable form of treatment that provides an increased spectrum of restorative options: maintaining or improving phonetics establishing or increasing masticatory efficiency, stabilizing

dental relationships and developing the required aesthetics [12].

Acceptance, preference and satisfaction with TPD depends or vary from patient to patient, attitude towards TPD, previous TPD experience of a denture wearer, encouragement for denture and design and fabrication procedure for TPD [13–15]. Retention, mastication ability, esthetics, seem to be the most important factors for TPD acceptance [16, 17]. Patient's dissatisfaction with temporary partial denture depends on some of reasons such as risk to local damage of the remaining teeth, for e.g. caries, periodontal disease, plaque accumulation, oral candidiasis, denture stomatitis, etc. [18–24]. Patient's dissatisfaction with TPD also depends on willingness of patients to take up fixed dental prostheses [25–31]. TPD is an aesthetic problem for most people. TPD can also affect the appearance and interpersonal communication of a patient [32, 33]. The aim of the study was to evaluate the frequency of Temporary Partial Dentures (TPD) in the patients undergoing treatment for partial edentulism.

MATERIALS AND METHODS

This is a retrospective clinical observational study, the study was conducted in a University Hospital located in Chennai,

Tamil Nadu. For this study we got approval from the Institutional Ethical Review Board. All the dental case sheets filled by dental students of university hospital during the months of June 2019 – March 2020 was reviewed. Data case sheets of patients who visited University Hospital during the months of June 2019 – March 2020 with chief complaints of partial edentulism and had undergone Temporary partial denture treatment were analysed. In order to prevent occurrence of error the verified case sheets were once again to cross verified by another examiner. After cross verification we got a sample population size of about N=1095 (patients).

Collected data was tabulated in the excel sheet. Excel tabulated data was transferred to SPSS for software analysis. Descriptive statistics and chi square tests were carried out. Results are presented in the form of graphs.

RESULTS AND DISCUSSION

This retrospective study was an institution based assessment aimed to assess the relationship between gender and age prevalence of patients undergoing temporary partial denture treatment in the South Indian Population. Our sample population was about 1095 in numbers. **Figure 1** shows frequency distribution age of patients(sample

population) included in our study who had undergone TPD treatment where almost 302 patients were aged between 41-50 years, 296 patients were aged between 51-60 years, 205 were aged between 61-70 years, 153 patients were aged between 31-40years, 60 patients were between the age of 21-30 years, 47 patients were between the age group of 71-80 years, 23 patients were aged between 11-20years, 8 patients were between the age group of 81- 90 years, 1 patient was between the age group of 0-10 years who had undergone TPD treatment. **Figure 2** shows frequency distribution of gender of patients included in our study who had undergone TPD treatment where 619(56.5%) were male and 476(43.5%) were female.

Figure 3 shows association of age and gender prevalence in patients undergoing for temporary partial denture treatment where males aged between 51-60 years preferred TPD(181) followed by 41-50 years(147);61-70 years(138); 31-40 years(57); 21-30 years (41); 71-80 years(32); 11-20 years(17); 81-90 years(7). Most of the females aged between 41-50 years preferred TPD(156) followed by 31-40 years (96); 61-70 years(67); 21-30 years (19); 71-80 years 15; 81-90 years (1);0-10 years (1). patients undergoing temporary partial denture treatment were males between the age of 51-60 years(181) and females

between the age group of 41-50 years (156) showed high prevalence. Association of age and gender prevalence in patients undergoing temporary partial denture treatment. Chi square test between age and gender of patient gave p value of about <0.005 which is statistically significant. Thus to conclude the result as an overall males prefer TPD treatment than females.

In order to undergo TPD treatment Patients should be physically and psychologically prepared to accept a prosthetic treatment [34, 35]. **Figure 1** shows Age prevalence Based on frequency about 41 to 50 years aged population with missing teeth prefer Temporary partial Denture is 302 in number out of 1095. Our study is similar to Slade GD, *et al* study where males preferred TPD more than females [36]. According to **Mayya A, et al 2018** Male prefer removable prostheses more than females [37].

According to **Figure 2**, Gender prevalence Based on frequency shows Male population with missing teeth prefer Temporary partial Denture than female. Frequency ratio for Gender= Male: Female: 619:476 out of 1095 patients. Frank RP, *et al* says frequency of choosing or preferring prosthetic treatment is more in populations aged <60 years [13].

According to **Figure 3** the Number of TPD cases reported in a dental institution

frequency show prevalence of 181 Males between 51-60 years and 156 Females between 41-50 years chose TPD Treatment. According to D. Knezovic' Zlataric', *et al* Journal of Oral Rehabilitation 2003- there were- 26% males - 74% females. Since this study was carried out in foreign countries which may have mismatches with our study and is not similar to our study [14]. According to **Mallika S. et al.** Contemp Clin Dent. 2015. Females accept TPD treatments. Since this was carried out in the year of 2015, the result obtained is not similar to our study [38]. Since our study is institutional based assessment consideration of patients is limited to an institution. Patient preferring / choosing TPD out of our instructions not considered.

Limitations with our study was, the result of our study is based on patient case sheet reports of university hospital (single centered report), Due to several reasons general considerations; clinical considerations; patient satisfaction; was not recorded. Including private practitioners data can give more insight into errors. So in Future This study can be carried by avoiding Noticeable errors, and including satisfactory level of patient use of better armamentarium in a multi centered approach. Educating patients to go for fixed prosthetic treatment may also be done.

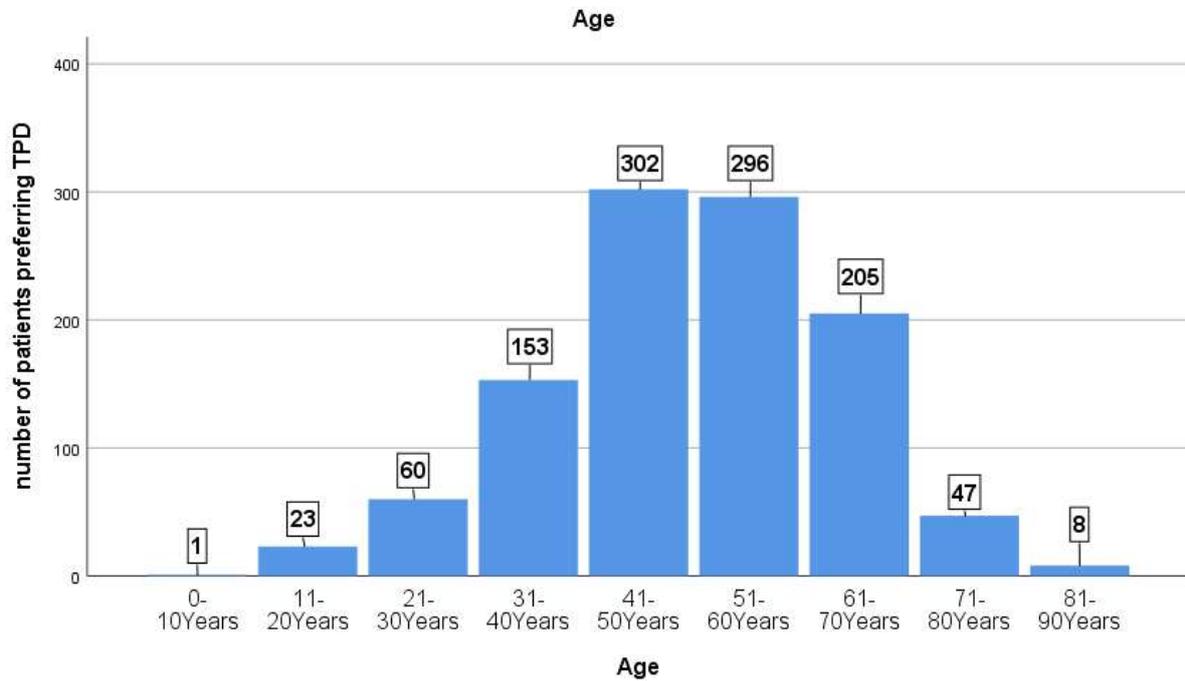


Figure 1: Bar graph representing age distribution of patients who underwent temporary partial denture (TPD) treatment. X-axis represents age and Y-axis represents the number of patients who underwent TPD treatment. Graph shows that most of the patients aged between 41-50 years (302) preferred TPD.

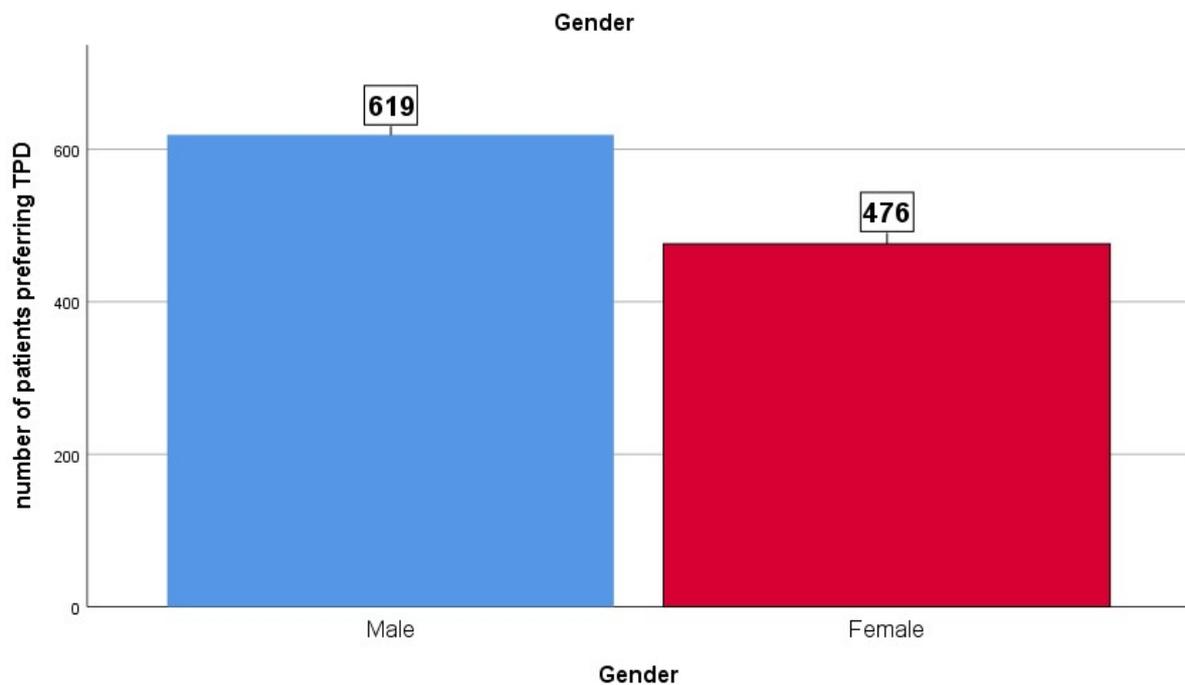


Figure 2: Bar graph representing gender distribution of patients who underwent temporary partial denture (TPD) treatment. X-axis represents gender (blue=male; red=female) and Y-axis represents the number of patients who underwent TPD treatment. The graph shows that more number of males (619 - blue) preferred TPD over females.

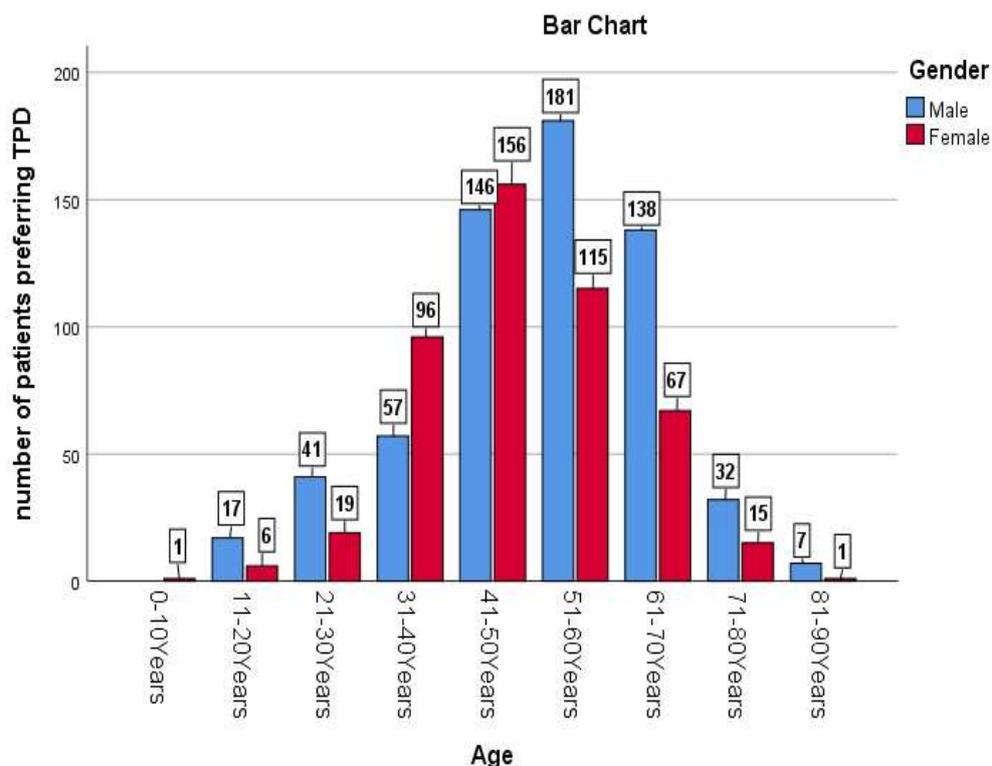


Figure 3: This bar graph represents the association between gender and age of patients undergoing temporary partial denture (TPD) treatment. X-axis represents age and Y-axis represents the number of patients. Graph shows that most males aged between 51-60 years preferred TPD(181). Most of the females aged between 41-50 years preferred TPD(156). Pearson Chi square value:56.850, DF:8 $p=0.000$ ($p<0.05$) indicating statistical significance. With the increase in age, the number of patients who underwent replacement of missing teeth with TPD significantly increased among male and female population. Among the female population the trend decreased after 50 years of age and among males the trend decreased after 60 years of age.

CONCLUSION

Within the limitations of the study it can be concluded that more number of male patients underwent replacement of missing teeth with TPD than females. Majority of the TPD patients were in the age group of 41 to 60 years. With the increase in age, the number of patients who underwent replacement of missing teeth with TPD significantly increased among male and female population. Among the female population the trend decreased after 50 years of age and

among males the trend decreased after 60 years of age.

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