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ESTHETICS IN FIXED PARTIAL DENTURE PATIENTS VISITING A DENTAL HOSPITAL

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Abstract

Esthetics is a major concern during restoration of anterior partial edentulous areas. Controversy persists regarding the treatment planning criteria for esthetic restorations. Interdisciplinary treatment planning, biocompatibility, marginal adaptation, color matching, patient selection, technique sensitivity, and mode and rate of failure of tooth-colored restorations are all issues that need consideration prior to restoration of an anterior partially edentulous area.Patients' perception of their oral health status are important outcomes in prosthodontics.There is increasing realization that patient evaluation regarding the satisfaction level is worth such treatment.The aim of the study is to evaluate the Fixed Partial Denture considering the esthetic outcome of the treatment.Male patients (52.9%)were higher when compared to the female patients and (46.9),transgender(0.13%). Fixed partial denture with poor esthetics accounts for 26%,Fair esthetics adds for 38.3% which is more when compared to others,Good Esthetics accounts for 35.6%.In this study there are esthetics concerns still addressed in patients with fixed partial denture..

Keywords: *Fixed Partial Denture,Esthetics,Patient's Satisfaction.*

Introduction

Edentulism and denture disease have profound effect on the quality of the patient's life[1–3].Any dentofactical problem are known to affect the patient's satisfaction with their dentition as it may affect esthetics.Performance and function of Fixed Partial Denture have become the treatment of choice for replacement of missing teeth due to their advantages of being fixed and being more economical compared to implants[1,4,5].It is important to know that patients receive treatment which gives them overall oral comfort,esthetics and oral function and gained economical value for the treatment[6–8].Although the dental literature has numerous articles on Fixed Partial Denture[9–13].Esthetics plays a major role during restoration of anterior partial edentulous areas.

Controversy persists regarding the treatment planning criteria for esthetic restorations. Interdisciplinary treatment planning is important where biocompatibility, marginal adaptation, color matching, patient selection, technique sensitivity, and mode and rate of failure of tooth-colored restorations are all issues that need consideration prior to restoration of an anterior partially edentulous area [14].

Although metal-ceramic crowns and fixed partial dentures have been documented with 94% success rates over the past 10-year, [15] concern regarding limitations in biocompatibility and optical qualities has accelerated the usage of all-ceramic crowns. All-ceramic crowns have been extensively used in the field prosthodontics in recent years for their superior gingival response and optimal distribution of reflected light, whereas achieving similar marginal accuracies when compared to traditional metal-based restorations[16–20].

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When overall dental appearance is considered, several factors are of significance, including tooth color, shape, and position; restoration quality; and the general arrangement of the dentition, especially of the anterior teeth. Each factor may be considered individually, but all components together act in concert to produce the final esthetic effect. However, although the clinician must be mindful of the patient's desires for a favorable cosmetic result, materials and techniques must be carefully selected, and restorations should be sufficient to withstand the forces of occlusion and mastication and provide long-term function and esthetics. The elective nature of esthetic procedures requires that the patient is thoroughly educated about possible risks and adverse consequences.along with need for dedicated maintenance. The proper selection of treatment occurs through a comprehensive dialogue between the Prosthodontist and the patient in which both subjective and objective evaluations are utilized to determine appropriateness of treatment and thus enable the assumption; of reasonable risk benefit ratio. The irreversibility of many esthetics procedures requires that the patient be fully aware of future additional and or alternative treatments if their initial esthetic goals are not met. In this article an effort has been made to outline the possible esthetic errors which occur in the absence of careful treatment planning during the fabrication of fixed partial denture procedure.

And so,there are studies which deal with patients' perception of clinical outcome and satisfaction[21–23].Studies show various regarding the satisfaction status of the patients were done in different countries[24–29].The upsurge in the use of tooth colored restoration materials and systems in recent years.When overall dental appearance involute tooth color,shape and position.However,although the clinician must be mindful of the patient's desires for favourable cosmetic reason materials and technique must be carefully selected[30].This study is conducted to analyse the esthetic level in Fixed Partial Denture among patients by photograph evaluation.

MATERIALS AND METHOD

Study setting and study design

It is a retrospective study.The data was collected from the patients case sheet record.Post insertion pictures of Fixed Partial Denture was analysed and scoring was giving.Scoring included 0-Poor,1-Fair,2-Good.

Participants

All the patients who received Fixed Partial Denture in Saveetha Dental Hospitals in Chennai.

Inclusion criteria

- Patients with partial edentulism
- Fixed denture wearers within one year period of time
- Patients aged between 20 years old and above

Exclusion criteria

- Fixed denture wearer for more than one year
- Patients with major physical disabilities
- Syndromic patients

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Ethical approval

The ethical approval(SDC/SIHEC/2020/DIASDATA/0619-0320) for the research was obtained from the ethical committee of Saveetha Dental college ,Saveetha Institute of medical and Technical science,Saveetha University,Chennai

Study Size

The sample size was n=726

Statistically Analysis

The data was collected from patient reports in hospitals,The obtained data was entered in microsoft excel 2012 .Then exported to statistical package for social science for windows (version 20.0.SPSS Inc.,Chicago III,USA)and all subjected to statistical analysis.Chi square test was employed with a level of significance set at P 0.05.

RESULTS

In our study it is found that number of male patients (52.9%)were higher when compared to the female patients (46.9),transgender(0.13%) in figure 1.In figure 2 its shows the distribution of patients according to age of the patients were patient aged between 20 years old and below accounts for 4.9%,patient aged between 21-30 years old accounts for 6.9%,patients aged between 31-40 years old accounts for 13.8%,patients aged between 41-50 year accounts for 26.2%,patients aged between 51 years old and above will account for 48%.Hence,patients aged between 51 years and above were more when compared to other age groups.In figure 3 it shows the esthetic satus of the fixed partial denture were scoring was given from poor,fair and good esthetics. Patients with poor esthetic fixed partial denture adds for 26%,patients with fair esthetic fixed partial denture accounts for 38.3%,patients with good esthetic fixed partial denture accounts for 35.6%.In figure 4 association of gender and esthetic status of fixed partial denture is done.In female patients fixed partial denture with poor esthetics accounts for 12%,fair esthetics fixed partial denture accounts for 18.2%,fixed partial denture with good esthetics accounts for 16.4%.In male patients fixed partial denture with poor esthetics accounts for 13.9%,fair esthetics fixed partial denture accounts for 20%,fixed partial denture with good esthetics accounts for 19%..However,no statistically significant differences between the groups were observed.(Pearson Chi square test; P= 0.74 ,P>0.05).In figure 5 association of age and esthetics of fixed partial denture is depicted.In patients aged between 18-30 years old fixed partial denture with poor esthetics accounts for 6.7%,fair esthetics accounts for 11.4%,good esthetics for 11%.In patients aged between 31-40 years old fixed partial denture with poor esthetics accounts for 8.4%,fair esthetics accounts for 13.4%,good esthetics for 12.4%.In patients aged between 41-50 years old fixed partial denture with poor esthetics accounts for 5.9%,fair esthetics accounts for 6.3%,good esthetics for 4.9%.In patients aged between 51-60 years old fixed partial denture with poor esthetics accounts for 4.7%,fair esthetics accounts for 6.3%,good esthetics for 4.9%.In patients aged between 61 years old and above fixed partial denture with poor esthetics accounts for 0.1%.However,no statistically significant differences between the groups were observed.(Pearson Chi square test; P= 0.30 ,P>0.05.

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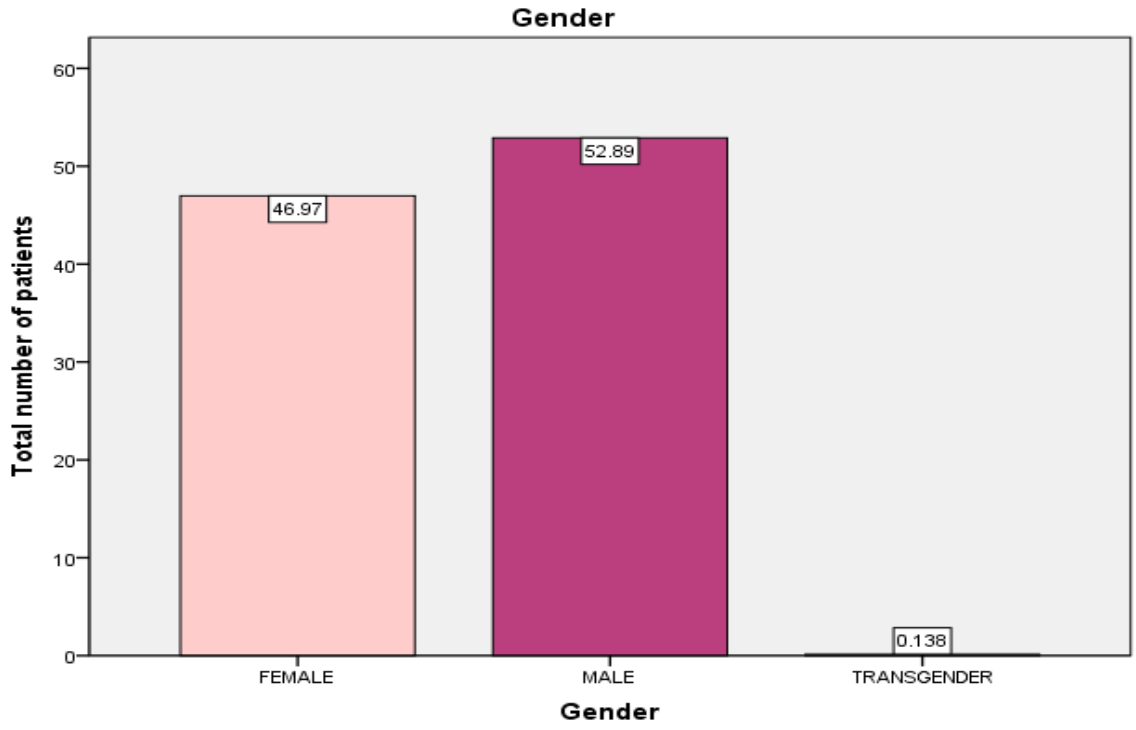

Figure 1:Distribution of gender.X axis shows gender of the patients involved in the study.Y axis shows the total number of patients.Male (Violet;52.8%)patients were more when compared to the female(Pink;46.9%) and transgender patients(Beige;0.13%).

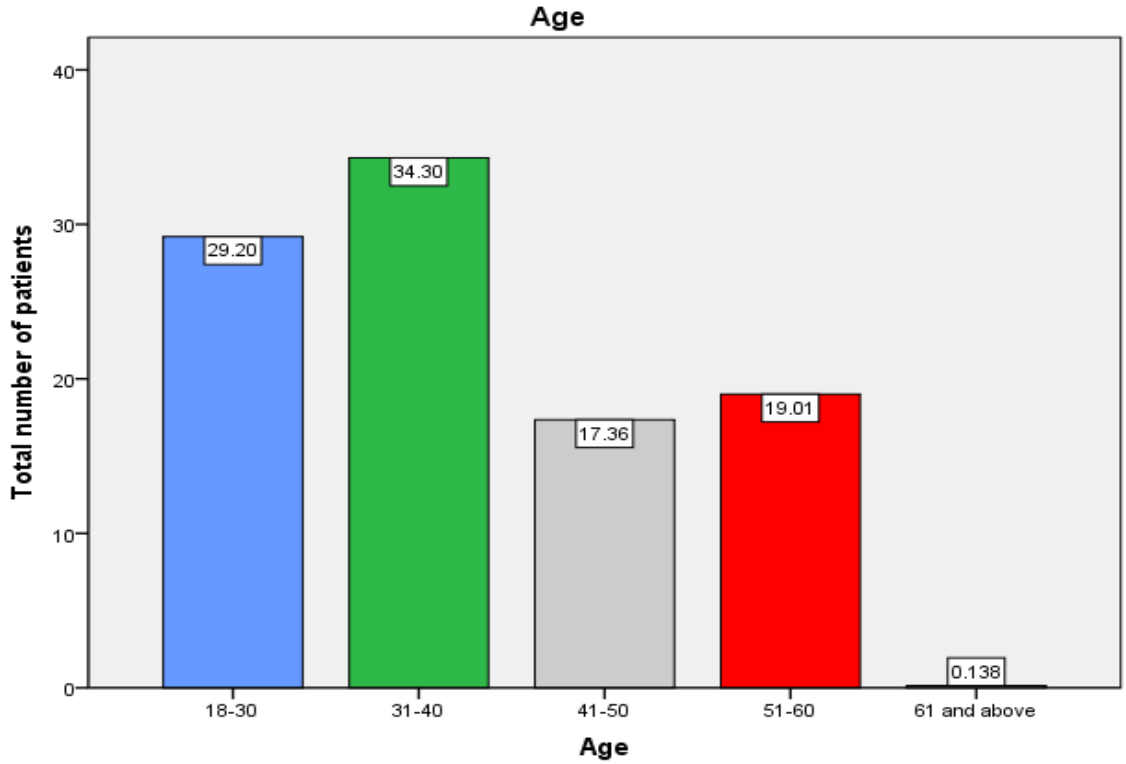

Figure 2:Shows the distribution of age of the patients in the study.X axis shows the age of the patients and Y axis shows the total number of patients.Patient aged between 18-30 years old(Blue;29.2%),Patients aged between 41-50 (Grey)years old accounts for17.3%,Patients aged between 51-60 years old(Red) accounts for 19%, Patients aged between 31-40 years old (34.3%)were found more when compared to other age groups.

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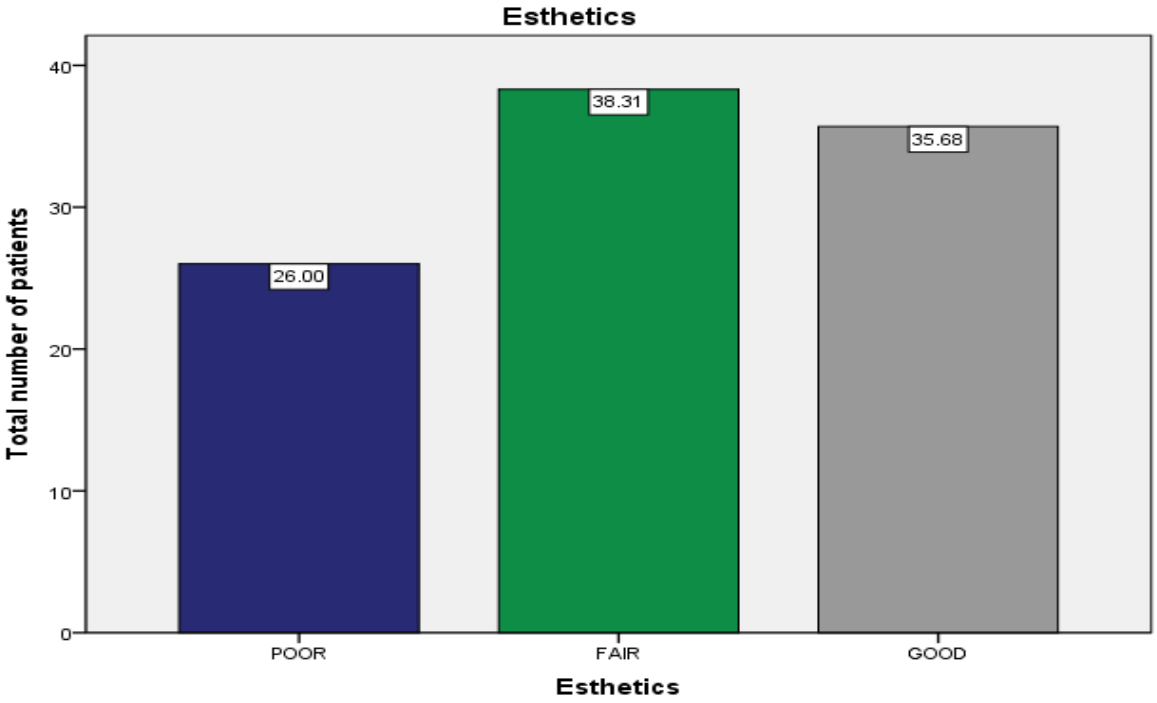

Figure 3:Distribution of fixed partial denture esthetic status.X axis shows the esthetic status and Y axis denotes the total number of patients in the study.Fixed partial denture with poor esthetics(Blue) accounts for 26%,Fair esthetics(Green) adds for 38.3% which is more when compared to others,Good Esthetics (Grey) accounts for 35.6%.

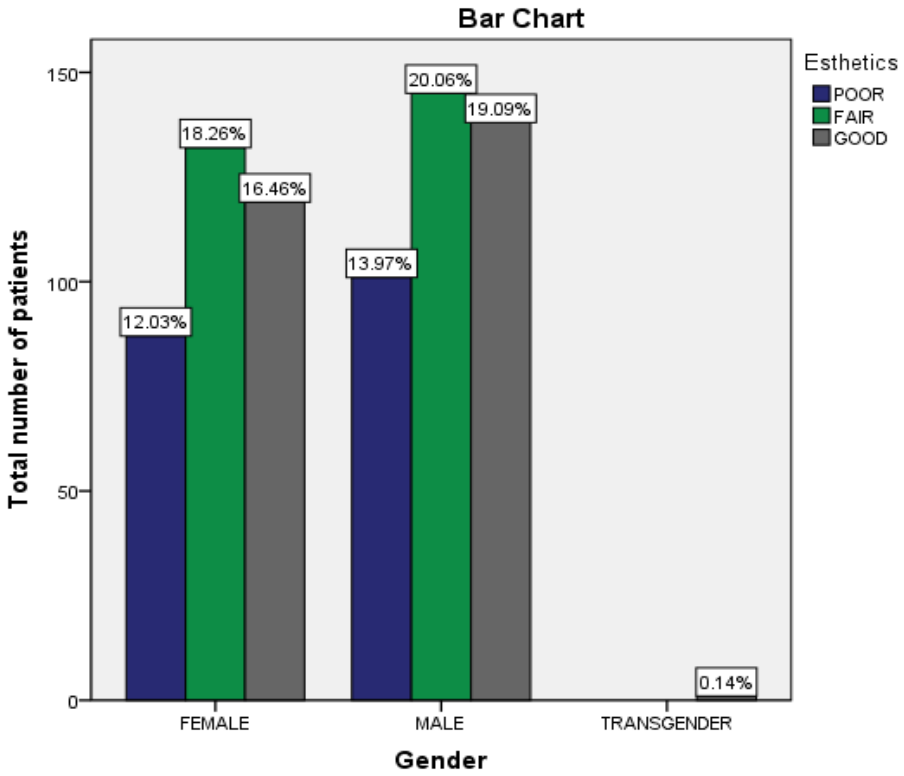

Figure 4: Association of gender and esthetic status of fixed partial denture.X axis shows the gender of the patients and esthetic status of fixed partial denture.Y axis shows the total number of patients.Both male and female patients have got fixed partial denture with fair esthetics 18.2% and 20% respectively.However,no statistically significant differences between the groups were observed.(Pearson Chi square test; P= 0.74 ,P>0.05).

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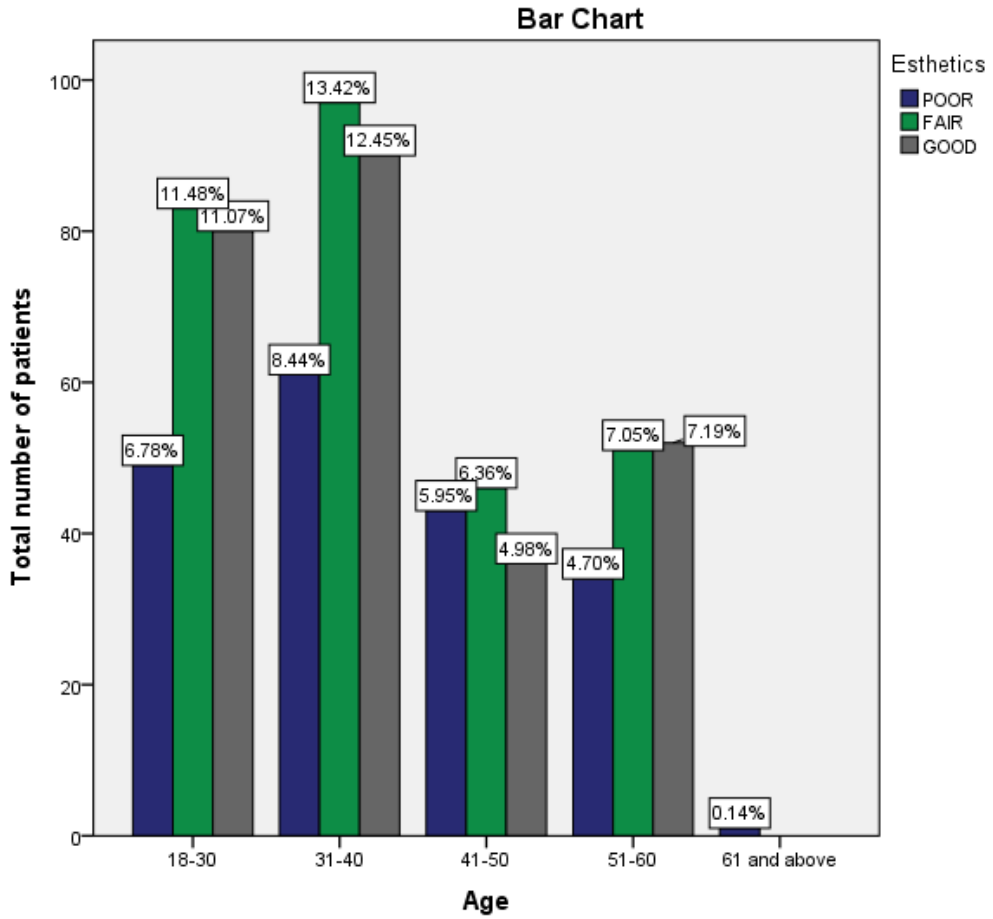

Figure 5:Association of age and esthetic status of the fixed partial denture.X axis shows the age of the patients and esthetic status of fixed partial denture,Y axis denotes the total number of patients.In all the age groups of patients fixed partial denture with fair esthetics accounts more when compared to others.However,no statistically significant differences between the groups were observed.(Pearson Chi square test; P= 0.30 ,P>0.05).

DISCUSSION

Esthetics has become one of the important aspects of dentistry. Until about the last two decades, clinicians have considered esthetics to be far less important than function, structure and biology. Today, however, if a treatment plan does not include a clear view of its esthetic concern on the patient, the outcome may be disastrous[31].Clinicians should begin a treatment plan with well-defined esthetic objectives, and they then should consider the impact of the planned treatment on function, structure and biology. Such planning requires the clinician to rely on several disciplines (such as prosthodontics, periodontics and orthodontics) to deliver the highest level of dental care to the patient.Today's dental restoration is consolidated around three mainstays: the use of non- metallic materials, such as composite resins and ceramics; adhesion to dental structures; and the achievement of a natural cosmetic look. The level of esthetic requirement and demand by patients in restorations has risen spectacularly in recent years, and this has made it necessary for dental professionals to explore this field in order to satisfy the existing social demand in this area. The dental materials that are available nowadays offer us the possibility of imitating the tooth's natural esthetic look, so long as the right one is chosen for a given situation. The first step to achieving clinical success in esthetic dentistry will therefore be to correctly identify the patient's needs and to imitate tooth color with the material that most closely matches, and to communicate this information to the laboratory if the restoration is to be carried out there. Color measurement may seem to be a minor element within the field of Restorative Dentistry, but its importance is essential, although not from the biological point of view. But given the present day level of esthetic exigency, a technically correct restoration can be a clinical failure if it fails to achieve the esthetic integration the patient nowadays demands[32].

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In our study there were total of 726 patients out of which 341 female patients and 384 male patients and 1 transgender patient.Around 189 had poor esthetics in their Fixed Partial Denture,278 had Fixed Partial Denture with fair esthetics and 259 patients received Fixed Partial Denture with good esthetics.

In our present study more of male patients had good esthetic Fixed Partial Denture.Studies have shown that patients have high expectations just before starting the treatment.It is well explained that after getting partial prosthetic in the form of Fixed Partial Denture,the function is restored partly but patient expects that they should have dentition equivalent to their natural teeth[33–35].Patients perception of their oral health status are important outcome in prosthodontics[1].The successful outcome of any Fixed Partial Denture is evaluated by measuring outcomes of chewing,function ,esthetics,longevity as well as technical complication[33,36,37].Anderson et al in 1998 showed that it is important to consider both clinicians and the patients appraisals[38,39].Satisfaction can be considered a combination of discrepancy between patients expectations and experience[40–43]..However parameters such as patients satisfaction are clearly underexposed in the current study.

The three major areas that determine the acceptance of the treatment are comfort,function and esthetics,mechanical and biological factors determine comfort and function.

CONCLUSION

To conclude our patients who received fixed partial dentures had a fair amount of esthetics.More number of study population needs to be assessed for generalised conclusion.

AUTHORS CONTRIBUTION

Author1(Amanthi Ganapathi) Carried out the retrospective study by collecting the data and drafting the manuscript after performing the necessary statistical analysis.Author 2(Dr.Dhanraj.G) aided in the conception of the topic,participated in the study design,statistical analysis and supervised the preparation of the manuscript and helped in study design and has coordinated in developing the manuscript.All the authors have equally contributed in developing this manuscript.

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CONFLICT OF INTEREST

Nil

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