

Failures in Fixed Partial Denture Awareness Among Dental Students in Our Institution in Chennai- Cross Sectional Survey

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Abstract

➤ Aim:

The aim of this study was to assess the level of knowledge, attitude and awareness about the failures of fixed partial denture among dental students.

➤ Materials and Methods

A cross sectional study was conducted among 100 undergraduate dental students, in which 57 were male students and 43 were female students' self-explanatory and unbiased questionnaires were handed to them.

➤ Result:

Among 100 dental students 83% of the respondents agreed that FPD is the most aesthetically preferred treatment for partially edentulous patient. 38% have agreed that they have enough clinical knowledge regarding failures in fixed partial denture.

➤ Conclusion:

There is an increased need for discussion programme and clinical exposure for undergraduate dental students.

Keywords:- Failures, Fixed Partial Denture, Awareness, Dental Students.

I. INTRODUCTION

Fixed partial denture is defined as a dental prosthesis that is luted, screwed, or mechanically attached or otherwise securely retained to natural teeth, tooth roots, or dental implant abutments that furnish the primary support for the dental prosthesis. They are commonly referred as bridges and cannot be removed by the patients. [GPT]

FPD is the most preferred choice of treatment. It varies from replacement of single tooth to rehabilitation of the entire dentition. It is more technically sensitive than

removable prosthesis and causes irreversible damage to tooth structure if not properly executed. Even though it has a disadvantage of involving natural teeth. Other modalities such as Implant supported fixed prosthesis are not in reach because of their financial affordability, lack of available facilities and patients fear of surgical procedure.^[1,2,3]

The various causes of failures of FPD are biologic, mechanical, aesthetic and psychogenic^[1]. It is important to analyse the failures of fixed partial denture so that the reason can be evaluated and further increases the success rate of fixed partial denture. FPD can fail due to poor maintenance and inadequate implementation of clinical and lab procedures.^[4,5]

II. MATERIALS AND METHOD

A sample questionnaire was prepared in order to evaluate the students' knowledge towards the failures of fixed partial denture. A systemized and unbiased questionnaire with 20 questions has been framed to evaluate students' attitude and awareness regarding failures in FPD procedures

The survey was conducted among the dental students in Thai moogambigai dental college under Dr. MGR educational and research institute which was taken from September to October 2019. The questionnaire has been given to UG dental students. The survey has been conducted among 100 dental student. In that survey 57 male students and 43 female students.

First part of survey questionnaire consists of demographic details of subject name, age, and gender. The questions were framed to access their awareness and knowledge towards the failures of fixed partial denture of the dental students. Participants were explained about the study and informed consent is obtained from them. This study includes only undergraduate students and post graduate students were excluded.

III. RESULTS

The responses were recorded and tabulated as follows

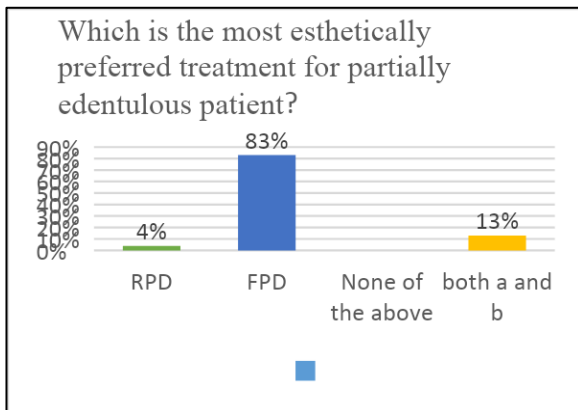


Fig 1:- 83% Students Responded that FPD is Most Preferred Treatment for Partially Edentulous Patients.

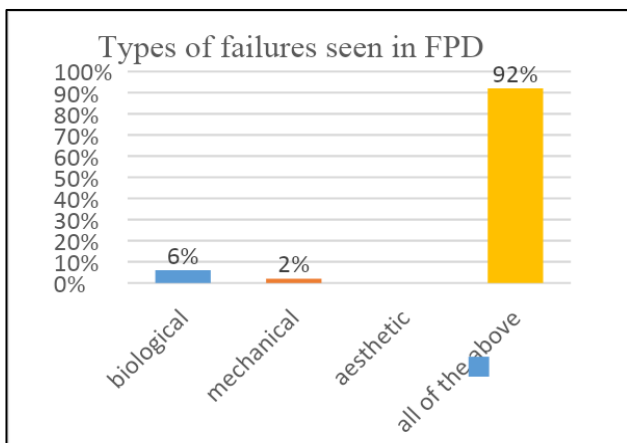


Fig 2:- 92% Students are Aware about Types of Failure Seen in FPD.

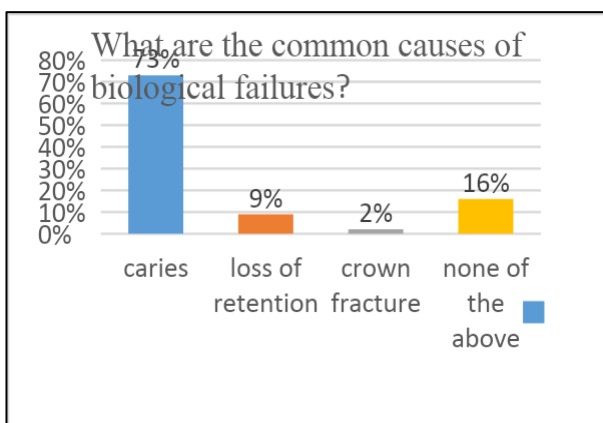


Fig 3:- 73% Students Responded that Caries is the Common Cause of Biological Failure.

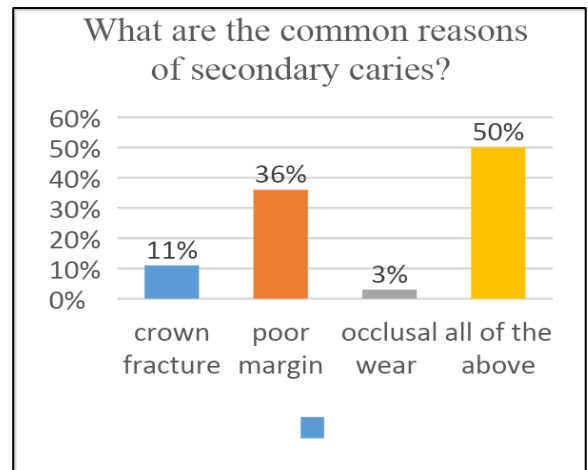


Fig 4:- 50% Students Responded that Crown Fracture, Poor Margin and Occlusal Wear Causes Secondary Caries.

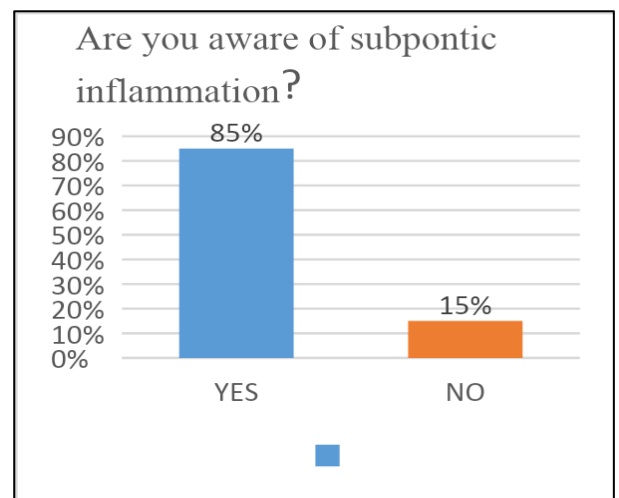


Fig 5:- 85% Students are Aware of Sub Pontic Inflammation.

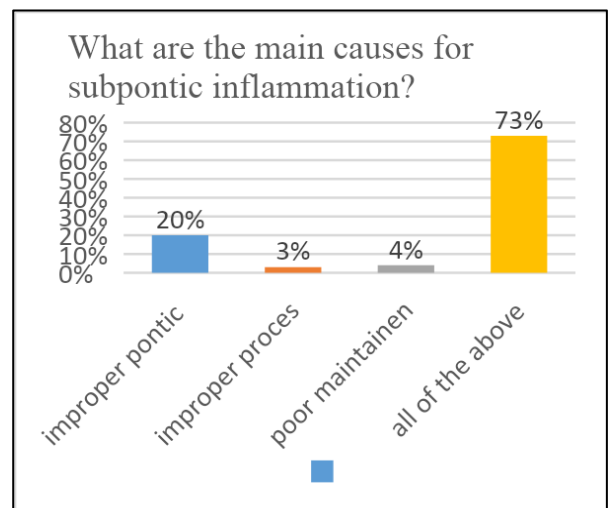


Fig 6:- 73% Students Agreed that Improper Pontic Design, Poor Maintenance and Improper Processing Causes Sub-Pontic Inflammation.

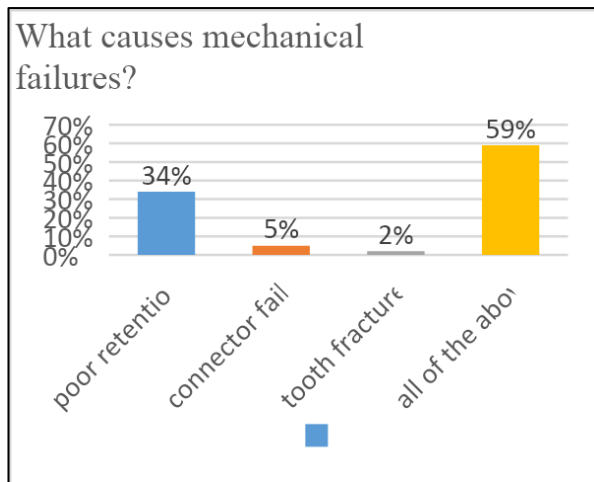


Fig 7:- 59% Students Responded that Poor Retention, Connector Failure and Tooth Fracture Causes Mechanical Failures.

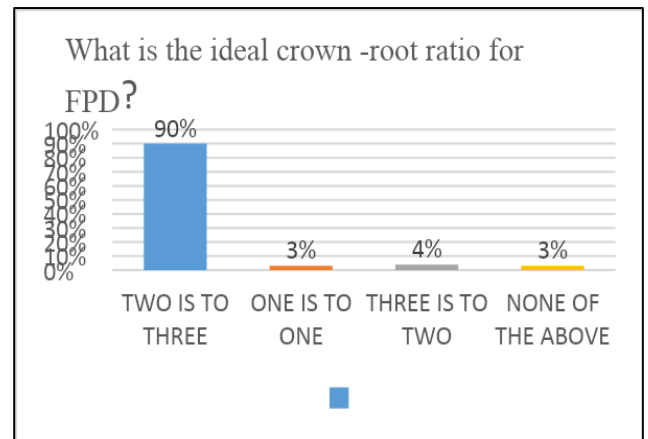


Fig 10:- About 90% Students Responded that 2:3 is the Ideal Crown Root Ratio.

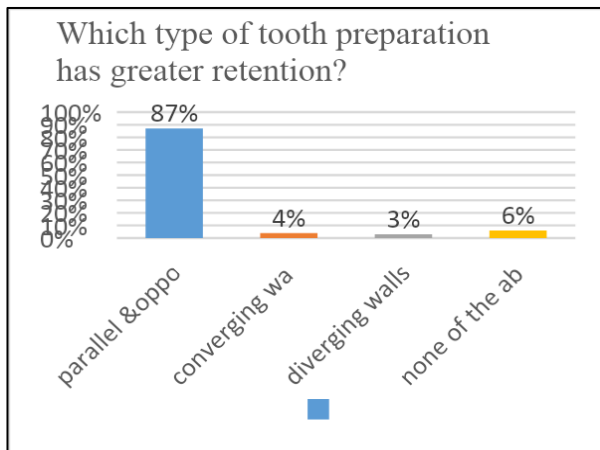


Fig 8:- 87% Students answered that Tooth Preparation with Parallel and Opposing Walls has Greater Retention.

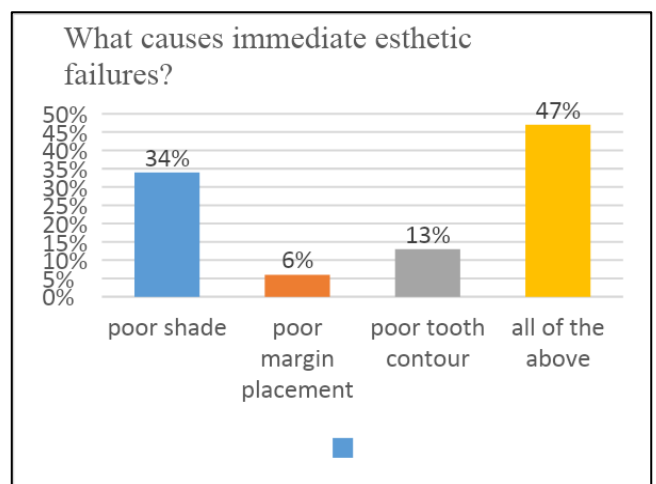


Fig 11:- About 47% Students Responded that Poor Shade, Poor Margin, Poor Tooth Contour and Poor Margin Placement Caused Aesthetic Failure of FPD.

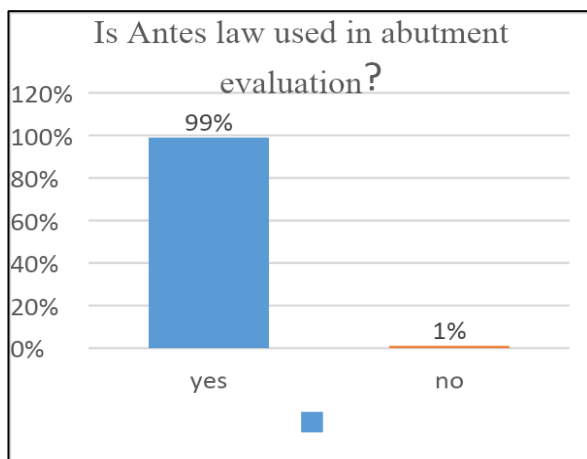


Fig 9:- 99% Students Agreed that Ante's Law is Used in Abutment Evaluation.

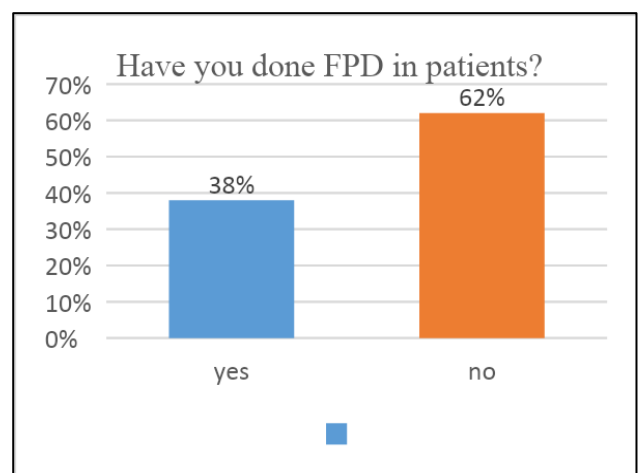


Fig 12:- 62% Students have Responded that they haven't Done FPD in Patients.

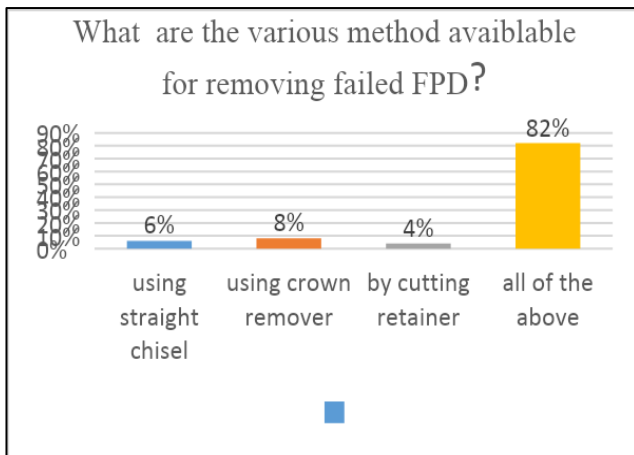


Fig 13:- 82% Students Preferred to Use Straight Chisel, Crown Remover and Cutting Retainer to Remove Failed FPD.

IV. DISCUSSION

This survey was conducted to evaluate students' awareness and their need for more knowledge regarding failures of FPD, in the selected sample size of 100 undergraduate dental students. Male and female students were randomly chosen.^[6,7]

This study revealed that 83% of dental students agreed that fixed partial denture is most aesthetically preferred treatment for the patients. Around 91% of the respondent aware of the various types of failures in fixed partial denture^[2]. About 73% were stated that caries is the main cause of biological failures in fixed partial denture.^[8] Secondary caries develops at the site tooth and the prosthetic restoration interface. Often this considered as main reason for failures of fixed partial denture. 50% of the respondent answered that crown fracture, poor margin, occlusal wear are the common reason for secondary caries^[9].

The 59 % of dental students responded that poor retention, connector failure and tooth fracture are the main causes of mechanical failures. 87% of the respondent felt that parallel the opposing wall greater will be the retention. Proper treatment planning and abutment evaluation can increase the lifespan of fixed partial denture 99% of the respondent agreed that Ante's law used in abutment evaluation. The fracture of abutment tooth is mainly caused due to weakened tooth structure, excessive reduction of tooth during preparation^[1].

The abutment evaluation is done by using ante's law 99% of the respondent agreed to that. The 90% of the dental students stated that 2:3 is the ideal crown – root ratio of the FPD. 49% of the dental students answered that excessive tooth preparation and interfering centric and eccentric contact causes crown fracture in FPD

The 47% of the dental students felt that poor shade match, poor margin placement and poor tooth contour causes immediate esthetic failures. All ceramic crown in fixed partial denture is superior in esthetic and biocompatible. 76 % dental students agreed that inadequate finish line and sharp areas on prepared tooth causes all ceramic failures.

The failures in fixed partial denture is unavoidable due to biological, fictional, esthetic reason. Even though there are various techniques and devices in market used to remove a failed fixed partial denture^[2]. about 82% of dental students preferred to use straight chisel or a crown remover to remove the failed FPD^[10].

V. CONCLUSION

From this survey we can conclude that there is enough awareness about failures in FPD among undergraduate dental students. Even though there is sufficient knowledge, lack of clinical exposure and up gradation of new system and techniques leads to various short come in treatment^[2] Student should take a sufficient effort to improve their clinical skills more hands on programs should be conducted based on this topic. This is a primitive study and more studies can be conducted based on this topic.

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