

DETERMINING THE ORAL SURGERY CONFIDENCE AND FACTORS INFLUENCING NON COMPLIANCE WITH PRE-PROSTHETIC SURGERY

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ABSTRACT

Objective: The objective of this study is to determine the factors responsible for noncompliance in pursuing preprosthetic surgery and baseline oral surgery confidence amongst patients reporting to Khyber College of Dentistry, Peshawar.

Material and Methods: This cross sectional analytical study was carried out at the Department of Prosthodontics at Khyber College of Dentistry, Peshawar. Informed consent was taken from the patients participating in the study. A custom made proforma was made to note demographic variables for comparison with the Litt's Oral Surgery Confidence Questionnaire (OSCQ), the type of preprosthetic surgery required and factors influencing noncompliance with the said procedure namely increased treatment duration, local and systemic morbidity, associated expenses, failure of surgery and myths heard or believed. Scoring of the OSCQ was done from 0-9 on 11 items and total score calculated. T-test was used to determine significance of gender and level of education with OSCQ score (p -value <0.05). One way ANOVA was utilized to determine significance of age and required procedure with OSCQ score (p -value <0.05).

Results: 105 patients comprised the study sample with a M:F ratio of 1:1.05. The mean age of the sample was 58.06 ± 11.22 years. Illiterate patients accounted for 82.9%. Alveoloplasty was the most commonly prescribed procedure (56.2%). Local and systemic morbidity was the most common factor leading to noncompliance in undergoing preprosthetic surgery (29.5%). The mean OSCQ score was 46.61 ± 11.91 . Gender and level of education were found to have a significant relationship with OSCQ scores (p -value <0.05) whereas age and procedure required did not show the same with OSCQ scores (p -value >0.05).

Conclusions: Illiteracy was the predominant educational state amongst the sample and alveoloplasty was the most commonly prescribed procedure alone and also in combination with other procedures. Moderate confidence level was noted in undergoing oral preprosthetic surgery. Gender and educational levels showed a significant relationship with OSCQ scores and these are the areas that should be focussed on to improve compliance in pursuing pre-prosthetic surgery which in turn can improve satisfaction with the use of complete dentures.

Key words: Pre prosthetic surgery, non compliance, oral surgery.

INTRODUCTION

Preprosthetic surgery comprises of procedures specifically tailored to restoring optimal hard and soft tissue contours and levels to improve prosthesis satisfaction in terms of function and aesthetics¹. Pre-

prosthetic surgery is not only a maxillofacial surgeon's domain but also requires the expertise of a prosthodontist, thus making it a multidisciplinary approach entity². The need for pre-prosthetic surgery maybe manifold. It is commonly required as a corrective procedure following dental extractions, firearm injuries and as a part of oral cancer rehabilitation³. The denture bearing areas of the maxilla and mandible require specific soft and hard tissue profiles which may be achieved with a single procedure such as a vestibuloplasty or require bony correction with an alveoloplasty and in some case

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grafts from extra-oral sites such as iliac crest or fibula. The general consensus is that it is better to improve the status of the supporting tissues of a denture rather than provide an inferior prosthesis⁴.

The advent of dental implants has revolutionised the concept of restorative dentistry. One Cochrane review has diminished the significance of preprosthetic surgery in the implant era and gone as far as to call it obsolete⁵. However, failing to address prosthodontics concerns during implant placement can lead to increased treatment time in such patients and treatment planning which does not take preprosthetic surgery into consideration, may run into complicated courses^{6,7,8}. A local study highlighted the burden of unfavourable ridge form and while implants remain a luxury for most patients in Pakistan, therefore the resulting vacuum should be fulfilled by preprosthetic surgery⁹. Interestingly, an audit of the Department of oral and maxillofacial surgery says otherwise which thus begs the questions why patients do not pursue preprosthetic surgery to attain better outcomes with their prosthesis¹⁰.

The objective of this study is to determine the factors responsible for noncompliance in pursuing preprosthetic surgery amongst patients reporting to Khyber College of Dentistry as well as establish their baseline levels of oral surgery confidence. The findings of this study can help highlight those pertinent factors which in turn can be used to formulate new protocols and emphasis which areas of treatment planning require more focus in preparing patients for undergoing preprosthetic surgery.

METHODS AND MATERIALS

This cross sectional analytical study was carried out at the Department of Prosthodontics at Khyber College of Dentistry, Peshawar. Informed consent was taken from the patients who participated in the study. A custom made proforma was made to note demographic variables for comparison with the Litt's Oral Surgery Confidence Questionnaire¹¹ (OSCQ), the type of preprosthetic surgery required and factors influencing noncompliance with the said procedure namely increased treatment duration, local and systemic morbidity, associated expenses, failure of surgery and myths heard or believed. Scoring of the OSCQ was done from 0-9 on 11 items and total score calculated. Student's T-test was used to determine significance of gender and level of education with OSCQ score

(p-value <0.05). One way ANOVA was utilized to determine significance of age and required procedure with OSCQ score (p-value <0.05).

RESULTS

The sample comprised of 105 patients with a male to female ratio of 1:1.05. The age range of the sample was 30-80 years with a mean age of 58.06±11.22 years. In this study 82.9% of the sample was illiterate and gradually decreasing frequency was noted as the level of education was increased as shown in Figure-1.

A breakdown of the required procedures showed that alveoloplasty was the most commonly prescribed procedure (56.2%) followed by vestibuloplasty (21%). Tori reduction was the least required procedure (1%). Details of the required procedures are given in Table-I.

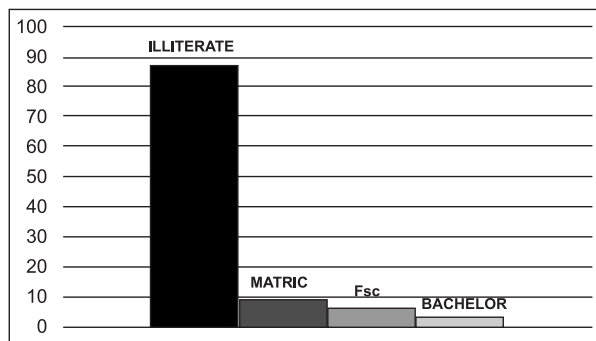


Figure-I: Relative frequency of educational level

Table-I: Relative frequencies of required procedures

Required procedure	%	n
Alveoloplasty	56.2	59
Vestibuloplasty	21.0	22
Multiple procedure	9.5	10
Frenectomy	9.5	10
Soft tissue reduction	2.9	3
Tori reduction	1.0	1
Total	100.0	105

Table-II: Relative frequency of factors contributing to lack of compliance with preprosthetic surgery.

Factors	n	%
Local & systemic morbidity	31	29.5
Associated expenses	27	25.7
Combination of reasons	20	19.0
Failure of surgery	14	13.3
Increased treatment duration	13	12.4
Total	105	100.0

Local and systemic morbidity was the most common factor leading to noncompliance in undergoing preprosthetic surgery (29.5%) followed by perceived expenses associated with preprosthetic surgery (25.7%). The details of the distribution of various factors are given in Table-II.

The mean OSCQ score of the study sample was 46.61 ± 11.91 indicating moderate levels of confidence in being able to undergo oral surgery. Gender and level of education were found to have a significant relationship with OSCQ scores ((p-value = 0.04 and 0.03 respectively) whereas age and procedure required did not show the same with OSCQ scores (p-value = 0.09 and 0.192 respectively).

DISCUSSION

Oral and maxillofacial surgery itself is a high treatment anxiety specialty and therefore none of its subset surgeries are exempted from this phenomenon¹². This study is the first of its kind in dealing specifically with factors that dissuade patients from pursuing preprosthetic surgery. This level of treatment anxiety has various manifestations on treatment comfort, surgical conditions and postoperative outcome, hence eliminating or diminishing its role is of paramount importance to maxillofacial surgeon's worldwide^{13,14,15}. While this study has shown statistically significant relationships between gender and educational levels, the factors of age as well as required procedure could not be properly stratified due to the high mean age of the sample as well as low demand of preprosthetic procedures other than alveoloplasty and vestibuloplasty.

The cause of treatment anxiety is multipronged, encompassing demographic and surgical factors. Previous treatment experience is also thought to play a role¹⁶. Delfino¹³ in his study found fear of pain, cost of treatment, needles as specific stressors associated with surgical anxiety and discounted the role of previous treatment experience. This study correlated well with his findings despite that their study utilized the State Trait Anxiety Inventory (STAI) in contrast to the use of OSCQ.

Kleinknecht¹⁷ investigated dental patients using the dental fear scale (DFS) and reported higher levels of anxiety amongst females and those with higher educational levels which is in conformity with our study. They also reported frequent occurrence of such negative behaviour which is in contrast to our findings

of moderate confidence in undergoing oral surgery. This can be attributed to the overwhelming number of our study sample as illiterate (82.9%) thus reducing the effect of higher educational status on the mean OSCQ score.

One of the most definitive studies regarding oral and maxillofacial surgery was done by Hermes et al¹⁶. This was a multicentre trial conducted in Germany encompassing 600 patients of maxillofacial surgery (cases) and 800 patients of surgery and general dentistry as controls. They utilized the STAI scale and reported higher scores in the cases group, with a statistical difference found with young age (p = 0.001-0.025) and female patients (p = <0.001). Higher STAI scores were also found among outpatients and those who were treated with local anaesthesia. They also reported that previous treatment experience did not influence STAI scores significantly (p = 0.25). The lack of a significant relationship between age and oral surgery confidence in our study can be attributed to the high mean age of the sample, a finding not peculiar among patients who report for preprosthetic surgery. All patients in our study were included as outpatients and to be operated under local anaesthesia. As a control group was not formulated, comparison of OSCQ scores with the study of Hermes is not possible, neither was previous dental experience included as a factor for determining its statistical relationship or lack thereof with oral surgery confidence.

CONCLUSIONS

From this study it is concluded that:

- 1- Alveoloplasty was the most commonly prescribed procedure alone and also in combination with other procedures.
- 2- Moderate confidence level was noted in undergoing oral preprosthetic surgery.
- 3- Gender and educational levels showed a significant relationship with OSCQ scores and these are the areas that should be focussed on to improve compliance in pursuing pre-prosthetic surgery which in turn can improve satisfaction with the use of complete dentures.

RECOMMENDATIONS

Based on the findings of our study, we would like to recommend:

- 1- Thorough counselling of patients.
- 2- Introduce measures to reduce local and systemic morbidity such as use of topical anaesthetics and pre-operative steroids.
- 3- Ensure provision of elective surgical procedures without delay.
- 4- Combining preprosthetic surgery with dental extractions.
- 5- Formation of joint treatment boards to discuss complex cases under one roof.

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