

# ASSESSMENT OF AWARENESS ABOUT PRE-REQUISITES AND INDICATIONS OF PERIODONTAL FLAP SURGERY IN UNDERGRADUATE DENTAL STUDENTS: A KAP STUDY.

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## ABSTRACT

**BACKGROUND:** Periodontal flap surgery is indicated for surgical elimination of periodontal pockets, reattachment, and bone regeneration and to correct gingival and mucogingival defects. It becomes very important to know this otherwise it becomes precarious when there is a professional negligence or ignorance.

**MATERIALS AND METHODS:** The objective of our study was to assess the knowledge, aptitude and practice about pre-requisites and indications of periodontal flap surgery among undergraduate dental students. A total of 200 undergraduate dental students who attended periodontology lectures and attended Periodontology clinics were selected for the study. Data on their knowledge and aptitude regarding pre-requisites and indications of flap surgery was collected by means of 15 self-administered close-ended questionnaires. Design: Institutional Based Cross-Sectional Study. Knowledge, Attitude and Perception Study.

**RESULTS:** All students answered the questionnaire completely. It was shown that third year students were less accredited compared the final year dental students. These results were speckled for the final year students. This was all due their (fourth/final year students) more clinical experience in the field.

**CONCLUSION:** The present study indicates that awareness of pre-requisites and indications of flap surgery awareness among study participants was below average and needed to be improved.

**KEYWORDS:** periodontal flap surgery, gingival defects, mucogingival defects, periodontal pockets, knowledge, attitude, perception

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## INTRODUCTION:

In our day-to-day dental practice, periodontal surgical therapy is generally administered for pocket elimination as the main objective. The main objective of periodontal surgery is to contribute to the long-term preservation of the periodontium by facilitating plaque removal & plaque control & periodontal surgery can serve this purpose.<sup>1,2</sup>

Periodontal flap surgery describes the state-of-the-art techniques and most commonly used approach to the surgical treatment and plastic surgical repair of periodontal pockets. "Pocketing" is the end result of inflammation and infection that causes the loss of tissue attachment to the teeth, one common consequence of periodontal (gum) disease.<sup>2</sup>

Treatment is based on an understanding of the disease process, the interaction between the bacterial biofilm or plaque collections at the gum line and the immune (resistance) system in a person susceptible to (likely to get) this disease. The long-term goal of periodontal surgery is to help increase the life expectancy of the teeth.

It is not a cure, but rather creates an environment that makes it easier to maintain health. Treatment is

therefore aimed at controlling the basic cause — the bacterial biofilm — over a lifetime. Vigilance in home care and regular periodontal recall cleanings and monitoring are necessary to ensure success.<sup>3,4</sup>

The purpose of periodontal surgery is to treat deformities and tissue loss created by the disease process, eliminating "pockets" of diseased tissue in order to create and maintain periodontal health. Techniques have been developed to deal with the gingival (gum) tissues and underlying bone. The objectives of periodontal flap surgery are to:

- Eliminate or reduce pockets.
- Regenerate periodontal tissues and their (re)-attachment to the teeth.
- Create more normal periodontal form, function, and aesthetics;
- Promote an environment more conducive to good oral hygiene practices and professional maintenance care.<sup>1,4</sup>

Current surgical flap techniques are based on a sound understanding of wound healing and are therefore designed to enhance and maximize the body's healing potential. Flap surgery is the most conservative and versatile way to treat periodontal

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pocketing. An internal surgical opening is used to access the affected gum tissues to create and raise a “flap” of gum tissue, similar to opening the flap of an envelope, aimed at the conservation of all healthy tissue. This approach allows:

- Removal of inner diseased tissue lining the pockets. (This tissue is ulcerated, resulting in open sores within the gum tissues, which are chronically inflamed.)
- Access to treat and clean root surfaces completely.
- Regeneration of lost bone and periodontal ligament.
- Intimate closure of the healthy tissues leaving no open wounds for rapid and comfortable healing.<sup>2,3</sup>

A periodontal specialist/periodontist trained in periodontal surgical techniques typically performs these procedures or general dentists who have taken advanced training in periodontal surgery. Most procedures are carried out with local anesthesia, which contains epinephrine (adrenalin) that ensures the anesthesia lasts for the procedure and that there is minimal bleeding. However, they are sometimes performed with the additional use of oral anti-anxiety/sedation medication or intravenous conscious sedation so that patients are awake, but in a more relaxed state. The innovations used in flap surgery are the result of years of periodontal research and the periodontal surgeon's knowledge, training and experience of what techniques to use — and when and how to use them.<sup>4</sup>

It is very important for the undergraduate dental students who are soon going to be these good hands for treatment of periodontal conditions to know their indications.

This study was thus performed to assess their knowledge and awareness regarding the re-requisites and indications of flap surgery.

## **METHODS**

A structured, self-administered questionnaire with 15 questions was used to access the knowledge and aptitude of 200 undergraduate dental students. Participants who attended Periodontology lectures regularly and worked exclusively in Periodontology Clinics were selected through convenient sampling in the study. There were 10

questions about knowledge and 5 questions about aptitude, which were accessed. The questionnaire study was conducted with participants with their consent and assurance of confidentiality was provided. Name and study year of the participants was noted. Experts from Department of Periodontology and Department of Preventive and Community Dentistry, Ahmedabad Dental College and Hospital, Ahmedabad checked for face and content validity of the surveying instrument (questionnaire). Based on the content validity ratio, the items in the questionnaire were modified or deleted. Pilot testing was done on 10 subjects selected from the undergraduate dental school selected through random sampling. Pilot study was conducted to check the adaptability of the questionnaire amongst the study group in respect to wording, clarity and comprehension. The pilot also helped to interpret the meaning of every question included in the questionnaire in an appropriate manner and the participant perception about it. The questions were objective questions or had multiple choices and participants had to select from the options. The study was undertaken after approval from ethical committee of Ahmedabad Dental College and Hospital. The answered questionnaire was converted to binary data and the data was analyzed using SPSS (SPSS 6.0 version 22). Number and percentage distribution of the participants' responses were calculated.

## **RESULTS**

This study was conducted to assess the awareness about pre-requisites and indications of flap surgery in undergraduate dental students studying in a dental hospital in Ahmedabad.

A total of 200 study participants were selected for the study. All the students completed the questions and nobody refused. When questions were asked pertaining to their knowledge, 82% of the students knew at least two probes used in the field. 21% of students knew the brushing technique to be advised to periodontal-compromised patients. 96% of the students answered that medical history was important before treating the patient. 74% of the students did understand and state the correct signs of periodontal pathological condition. 49% of students did know the correct aids used to identify periodontal disease. When students' knowledge was tested regarding flap surgery, mere 11% of students knew the pathological probing depth when flap

surgery could be indicated; 13% of students answered pertaining to tooth mobility and periodontal condition; 26% of students knew about the grafting materials used in dentistry; 46% of the students did know what outcomes could be achieved as a healing consequence of flap procedure; 9% of students knew about granulation tissue and calculus as a factor to be considered during debridement while doing flap procedure; 71% of students knew at least one suture material used during flap surgery. When considering perio-aesthetic surgeries, 8% of students considered periodontal approach for treating such conditions. 31% of students knew regarding the healing phase after flap surgery. 64% of students did tick maintenance phase to be important for the periodontal compromised patient.

## DISCUSSION

This study assessed attitude, knowledge and practice of undergraduate dental students (third year and final year) attending periodontics clinics in a local dental institution regarding the pre-requisites of flap surgery. In this study, a private dental college and hospital was selected. These institutions apart from treating patients provide thorough dental schooling to students and prepare them for dental graduation. A number of hospitals provide such schooling. In the present study, all the study participants (third year and final year undergraduates) who attend Periodontics clinics at the hospital were selected. The data was collected by means of structured questionnaire. The questions were written at a language level that allowed comprehension even by the youngest subjects. Furthermore, the investigator was always available during the completion of the questionnaire, and the subjects were encouraged to approach him whenever they needed clarification of any point.

Flap procedures are the gold standard for correcting and treating any periodontal condition. But the main objective lies in diagnosing the condition and then meticulously treating the pathology. The above objective can be achieved when the operating personnel empowers thorough knowledge and apply it in clinical situations. Keeping this in mind, in the present study, undergraduate dental students (third year and final year) were selected to be the participants as they have periodontology syllabus in their curriculum. The questionnaire given was

close- ended and on most occasions in order to obtain accurate response in relevance to knowledge, whereas whenever the attitude and perception evaluation was required a leading question was given.

Evaluation of the results of the current study showed that all participants were aware that all participants were aware of the fact that, flap surgery is a means for treating a periodontal pathology, but detailed in-depth knowledge should be required pertaining to the subject. Among all the students evaluated, a subtle variation was noted in regard to knowledge and understating on basic periodontics in an ascending order from third year. A classic example is that, when questioned about the aids used in investigating periodontal disease, 91% of the third years preferred to follow, intra-oral radiographs and orthopentograms; whereas majority of the fourth years claimed it to be CBCTs and denta-scans also. This contrasting aspect can be attributed to less clinical experience of third year students.

From the current study it is arguable that the participants were aware of the basic knowledge regarding periodontal procedures, it was more so with final year students followed by third years. Although this study is first of its kind and no similar studies were available for comparison, the results fits well with our hypotheses that the KAP of undergraduates towards indications of periodontal flap procedure was limited and this can be attributed to the community as a whole. However further studies with a larger sample size are required to validate our hypotheses. Moreover, the current study is a single institution based, hence a cross-sectional study comprising of similar samples utilizing multiple institutional participants are required for authentication.

In the current study design, a week after completion of the study all the participants were recalled and a reassurance program was conducted regarding basic periodontics and indications and pre-requisites of flap surgery. The program included lectures on basic periodontics, definitions, anatomy of peridontium, instruments, pathology in periodontium and various surgical techniques with their indications, contr-indications, advantages and dis-advantages. Each participant was individually recalled, counseled and stressed to update

knowledge regarding periodontal flap procedure.

## CONCLUSION

The present study indicates that awareness of pre-requisites and indications of flap surgery awareness among study participants was below average and needed to be improved. Although they gave importance to considering flap surgery as a modality for periodontally compromised patients, they could not replicate it in their practice due to lack of knowledge. The level of knowledge was speckled (more with final years) it is arguable that more they get exposure to clinical situations, more is the awareness. Similar studies with reassurance programs at regular intervals should be carried out at institutional and national level for assessment of their knowledge regarding basic periodontics, pathology and related surgical and non-surgical management.

## DRAWBACKS OF THE STUDY

Our current study is based on one single institution, which can lead to a bias due to non- normal data,

lower subjects and minimum variability. It could have been a multiple institutional cross-sectional study to cover more subjects (a bigger sample size) with their variable knowledge to control the skewness in the data. Moreover the data could become normal and all the biases could be controlled thereby. The study results cannot be hence considered to be authentic. A larger sample size should have been used including interns along with third year and final year students again to control the subject related errors. Further studies, which include national level institutions, should be done.

## RECOMMEDATIONS

The drawbacks in our study should have to be corrected by increasing the sample size. Such programs along with reassurance program at regular intervals should be carried out. This will help students to be updated on their knowledge regarding periodontal procedures and thus improve their quality once they come out as dental graduates.

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