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AWARENESS ON SOFT TISSUE MANAGEMENT AND COMPLICATIONS POST IMPLANT PLACEMENT AMONG UNDERGRADUATES

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ABSTRACT:

Implant dentistry is becoming an increasingly important treatment alternative for the prosthetic replacement of missing teeth, as patients expectations and demands increase. Furthermore, implant related complications such as peri-implantitis are presenting more frequently in dental surgery. Thus it is essential for the health care practitioners to have good basic knowledge. Our study aims at assessing the awareness on management of soft tissue post implant placement among dental students. An awareness based survey was conducted in January 2020 among dental students (Third years, Final years, Interns). It was an online questionnaire based study, conducted to assess the awareness on the management of soft tissue post implant placement . 150 dental students participated in this study. The data collection was done via google forms. In our study, 33.33% of interns,26.67% of final years and 33.33% of third years were aware of the term peri-implantitis, 28% of interns,18% of final years and 19.33% of third years were aware of the term peri-implantitis mucositis , 33.33% of interns 26.67% of final years and 33.33% of third years were aware of the term peri-implantitis mucositis think placement of implants affects soft tissue growth , 30.67% of interns,26.67% of final years and 15.33% of third years were aware of the difference between ailing and failing implants , 30.67% of interns,9.33% of final years and 14.67% of

third years were aware of the treatment modalities for peri-implantitis, 33.33% of interns, 4% of final years and 11.33% of third years were aware of gingival grafts used around implants for soft tissue augmentation, 27.33% of interns, 12.67% of final years and 15.33% of third years who were aware of GBR (Guided bone regeneration), 27.33.33% of interns,19.33% of final years and 26.67% of third years who were aware that LASERs are used for the management of peri-implantitis, 13.33% of interns,7.33% of final years and 3.33% of third years who were aware of CIST (Cumulative Interceptive Supportive Treatment) protocol for the management of peri-implantitis, 32.67% of interns,28% of final years and 21.33% of third years who were aware that peri-implantitis can be treated. Chi square test shows $p<0.05$, significant. Thus the results depict that Interns had a good awareness on management of soft tissue post implant placement when compared to the final and third years.

INTRODUCTION

The use of oral implants in prosthetic replacement dentistry has become a widely accepted and well documented treatment option. However, in long-term clinical studies, the failure rate of implants was increasing with time [12]. It is well known that a major reason for implant loss is peri-implantitis, a condition bearing great similarity to periodontal disease[3] . We know that mechanical stress, including occlusal force[4], is one of the most important factors to promote peri-implantitis, but the elimination of the suitable stress is too difficult. That is why recent dental implant research has also focused on the interface between titanium implants and the surrounding soft tissues [56]. The oral mucosa provides protection to the periodontal tissue, including alveolar bone, against bacteria and other deleterious stimuli, but when breached by implant placement, the continuity of this barrier is disrupted. Namely, peri-implantitis may be caused by the oral epithelium having only a lower capacity to seal tightly around the implant than it does around a natural tooth [7], despite there being minimal morphological differences between the peri-implant and gingival soft tissues [8,9]. Although it may be that the immune system of peri-implant tissue is inferior in local defense to one of periodontal tissue [10,11], the difference has not been clarified still now. Consequently, it is imperative that the modern dentist is well aware of the possibilities and limitations of implant-based reconstructive dentistry, as well as implant related pathologies. Management of the soft tissues to achieve these esthetic results is an issue that cannot be neglected by a dentist, but there is a deficit in our understanding of the biology and mechanisms of soft tissue sealing around implants that limits our ability to guarantee high implant stability and esthetics under oral conditions for a long term. In vivo and in vitro investigations can help to understand the structural, functional and molecular properties of the biological seal and the defence mechanisms acting at the interface between the peri-implant mucosa and dental implants[1213]. Implant therapy has evolved into an important part of daily dental practice.There is wide variation in the undergraduate teaching of implant dentistry between European universities [14,15]. Another study in India shows that 91.7% of students are eager to learn more about oral implants in college courses [16]. Thus, implant dentistry is slowly becoming a necessary part of pre-clinical teaching in dental education.Although not all dentists wish or are trained to provide implant-based treatment, it is necessary for all of them to receive sufficient training to inform patients of the advantages and disadvantages (indications,

contraindications, prosthetic possibilities in each case, etc.) whenever an implant-based treatment is a viable option within the patient's individual treatment plan. It is also necessary to adapt the undergraduate syllabus so that the training currently acquired on the degree course in dentistry will be of the same quality as the other disciplines involved in restoring dental function and esthetics and of sufficient scope and quality to allow adequate decision-making treatment that best suited the needs of an individual patient, fulfilling the basic objective of good practice[17]. Appropriate knowledge of diagnostic and therapeutic options with dental implant therapy is therefore mandatory for dental students.Previously our department has published extensive research on various aspects of prosthetic dentistry [18–28], this vast research experience has inspired us to research about the awareness of soft tissue management post implant placement among undergraduates.

MATERIALS AND METHOD

1.Study Design

Awareness based survey.

2.Data Collection

A survey was conducted in January 2020 among dental students (Third years, Final years, Interns). It was an online questionnaire based study, conducted to assess the awareness on the management of soft tissue post implant placement. 150 dental students (Third years, Final years, Interns) participated in this study. The data collection was done via google forms.

SURVEY INSTRUMENT

A pretested, self administered, closed ended questionnaire comprising the following sections formed the survey instrument. A structured questionnaire containing 10 questions which was based on the management of soft tissue post implant placement The questionnaire was equally distributed among Third years, Final years and Interns. The goal of developing this questionnaire was to know about the awareness the dental students have on the soft tissue management post implant placement. The questions had to be answered with a Yes or No response.

ETHICAL APPROVAL

Ethical approval was obtained from the Institutional Ethical Committee.

DATA ANALYSIS

The data collected was entered in an Excel sheet and subjected to statistical analysis using SPSS
version 20. Chi square test was done. The independent variables are age and gender while
dependent variables are knowledge, attitude and practice of management of soft tissue post implant placement The level of significance was set at $p<0.05$.
Questionnaire given is as follows:
Year of study:
1.Are you aware of the term peri-implantitis ?
2.Are you aware of the term peri-implantitis mucositis?
3.Does placement orientation of implants affect the soft tissue growth?

4.Are you aware of the difference between ailing and failing implants ?
5. Are you aware of the treatment modalities of peri-implantitis?
6.Are you aware of gingival grafts used around impacts for soft tissue augmentation ?
7.Are you aware of GBR (GUIDED BONE REGENERATION)?
8. Are you aware that LASERs are used for the management of peri-implantitis?
9.Are you aware of CIST (Cumulative Interceptive Supportive Treatment) protocol for the management of peri-implantitis?
10. Do you think peri-implantitis can be treated ?

RESULTS AND DISCUSSION

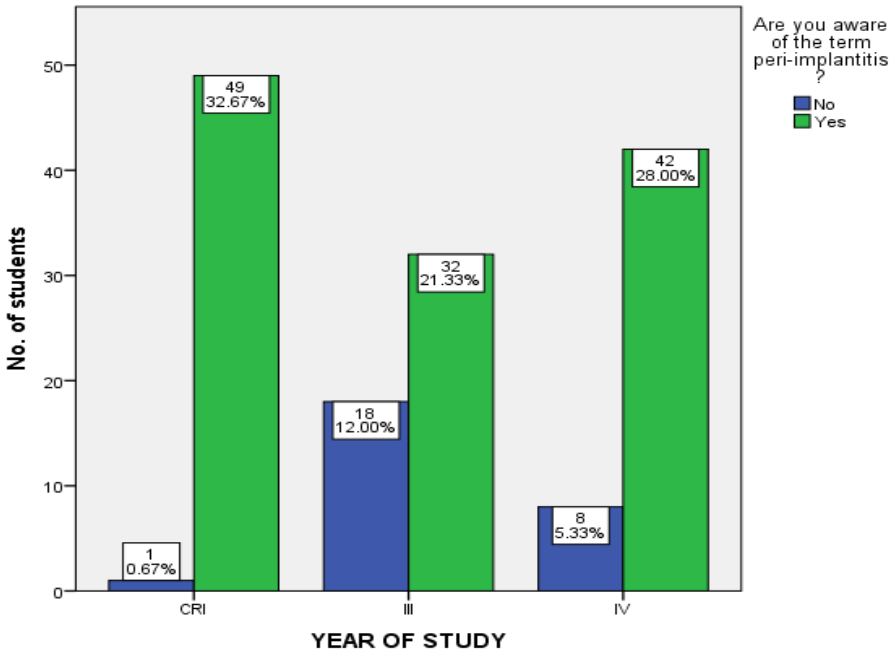

Figure 1: Bar graph denotes association between year of study of the participants and number of students who are aware of the term peri-implantitis. X axis denotes the year of study of the participants and Y axis denotes the number of dental students. Majority of the interns have given a response of yes (green) and the response no (blue) was mostly given by the third years. Chi square test shows p=0.000, significant. Hence proving that there is a significant association between the year of study of the participants and the number of dental students who are aware of the term peri-implantitis.

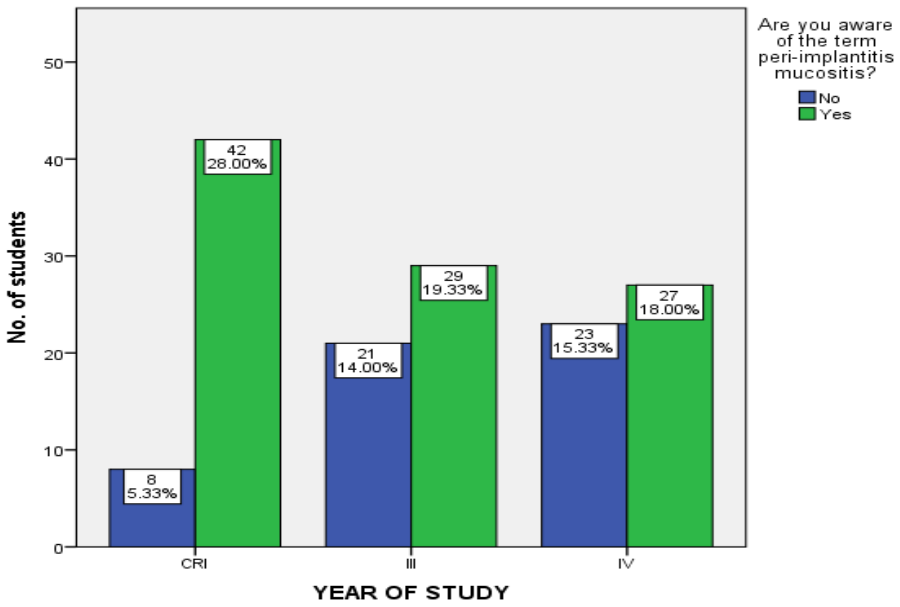

Figure 2: Bar graph denotes association between year of study of the participants and number of students who are aware of the term peri-implantitis mucositis. X axis denotes the year of study of the participants and Y axis denotes the number of dental students. Majority of the interns have given a response of yes (green) and the response no (blue) was mostly given by the final years. Chi square test shows p=0.000, significant. Hence proving that there is a significant association between the year of study of the participants and the number of dental students who are aware of the term peri-implantitis mucositis.

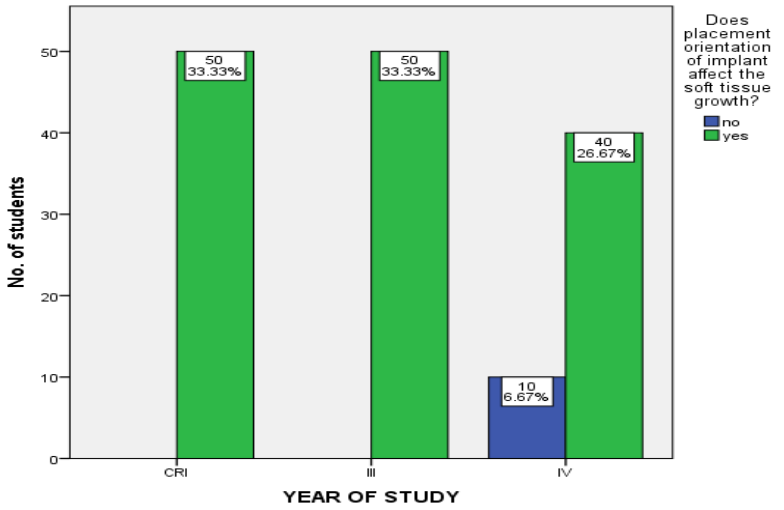

Figure 3: Bar graph denotes association between year of study of the participants and number of students who think placement of implants affects soft tissue growth. X axis denotes the year of study of the participants and Y axis denotes the number of dental students. Majority of the
interns have given a response of yes (green) and the response no (blue) was mostly given by the final years. Chi square test shows p=0.000, significant. Hence proving that there is a significant association between the year of study

of the participants and the number of dental students who think placement of implants affects soft tissue growth.

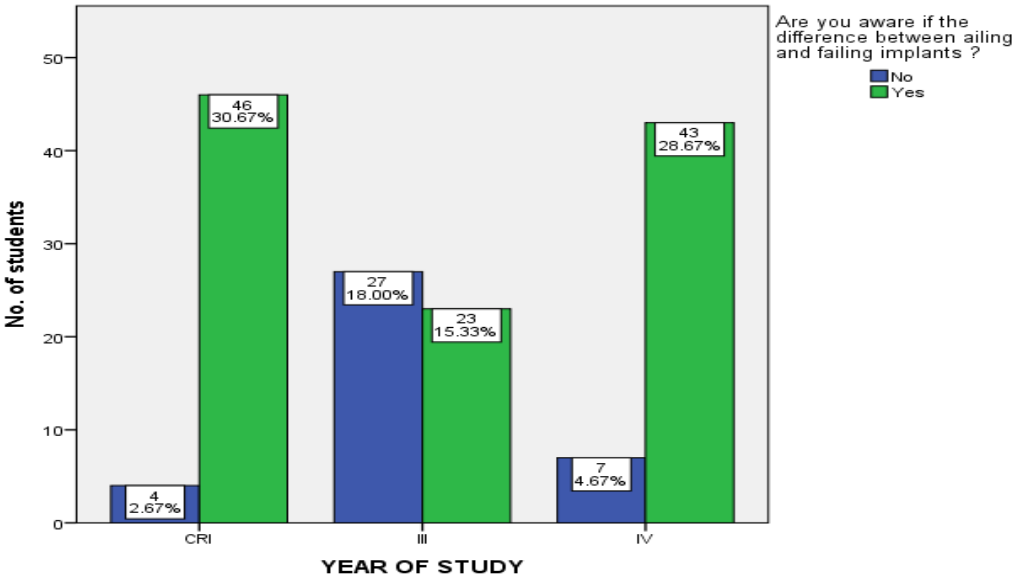

Figure 4: Bar graph denotes association between year of study of the participants and number of students who were aware of the difference between ailing and failing implants. X axis denotes the year of study of the participants and Y axis denotes the number of dental students. Majority of the Final years have given a response of yes (green) and the response no (blue) was mostly given by the third years. Chi square test shows p=0.000, significant. Hence proving that there is a significant association between the year of study of the participants and the number of dental students who know the difference between ailing and failing implants.

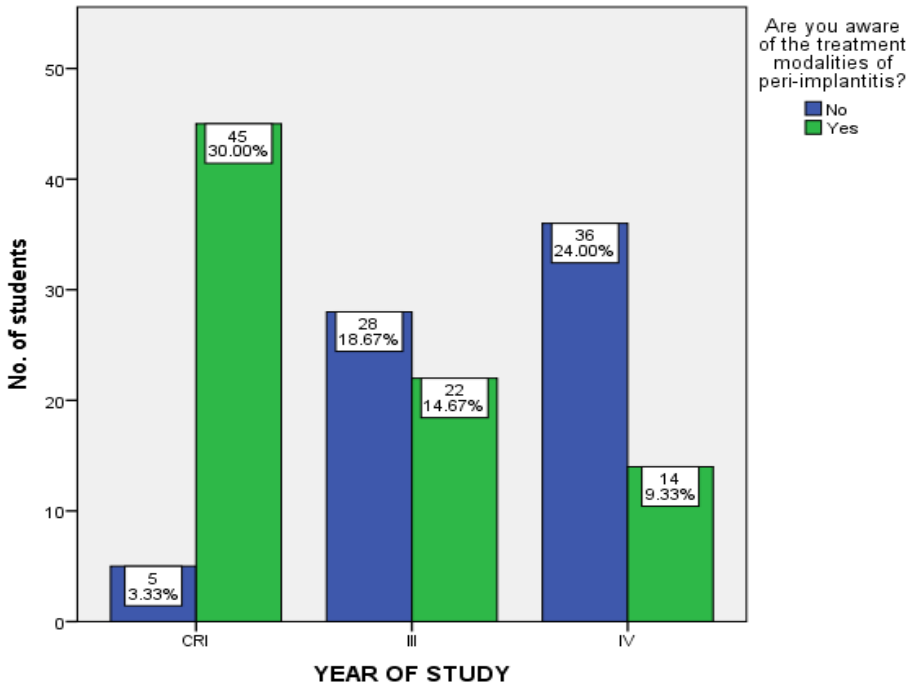

Figure 5: Bar graph denotes association between year of study of the participants and number of students who are aware of the treatment modalities

for peri-implantitis. X axis denotes the year of study of the participants and Y axis denotes the number of dental students. Majority of the interns have given a response of yes (green) and the response no (blue) was mostly given by the final years. Chi square test shows p=0.000, significant. Hence proving that there is a significant association between the year of study of the participants and the number of dental students who are aware of the treatment modalities for peri-implantitis.

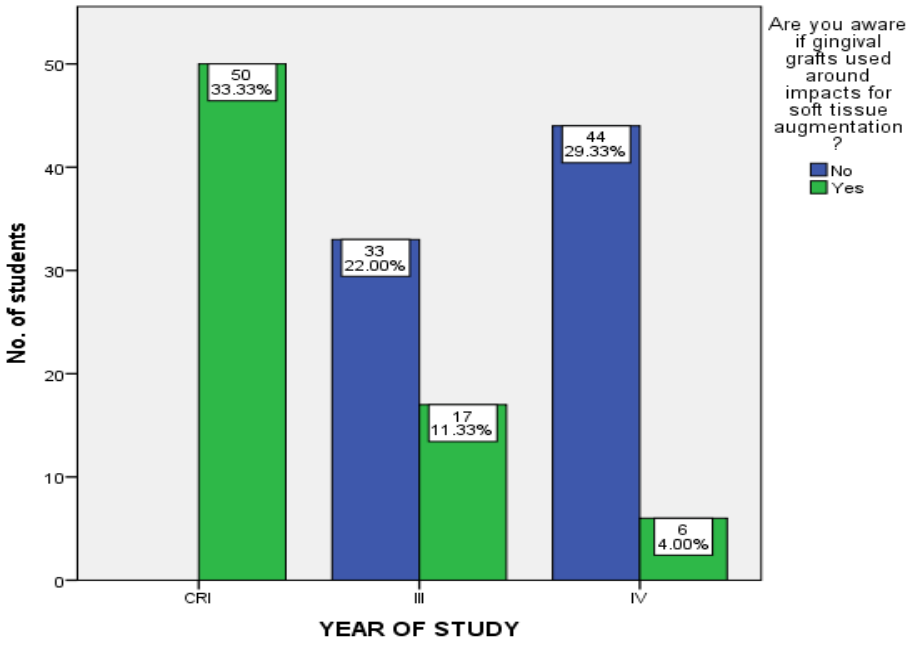

Figure 6: Bar graph denotes association between year of study of the participants and number of students who are aware of gingival grafts used around implants for soft tissue augmentation . X axis denotes the year of study of the participants and Y axis denotes the number of dental students.X axis denotes the year of study of the participants and Y axis denotes the number of dental students. Majority of the interns have given a response of yes (green) and the response no (blue) was mostly given by the final years. Chi square test shows p=0.000, significant. Hence proving that there is a significant association between the year of study of the participants and the number of dental students who are aware of gingival grafts used around implants for soft tissue augmentation .

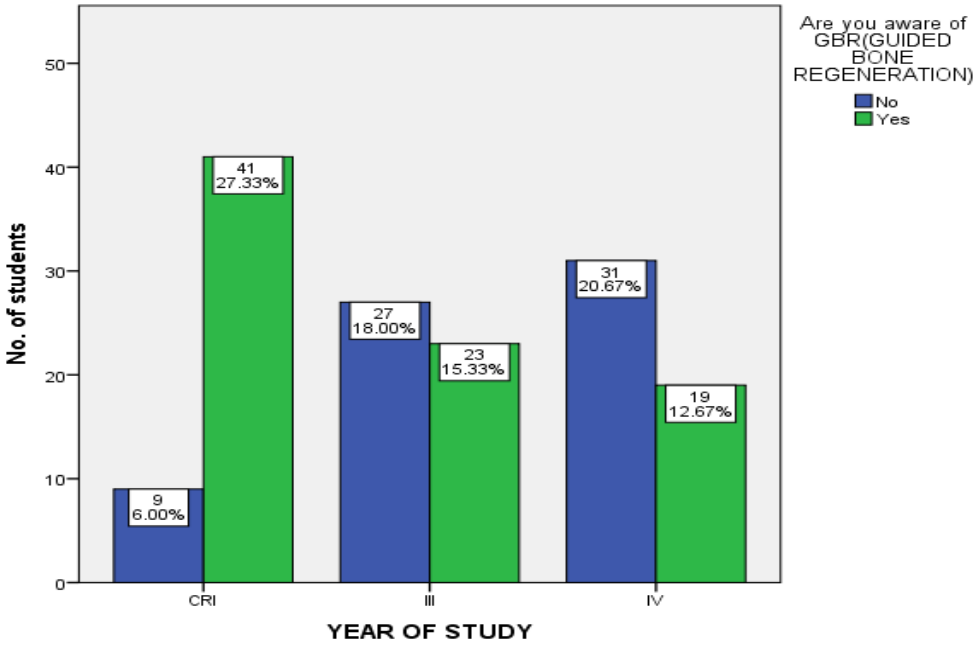

Figure 7: Bar graph denotes association between year of study of the participants and number of students who are aware of GBR (GUIDED BONE REGENERATION).X axis denotes the year of study of the participants and Y axis denotes the number of dental students. Majority of the interns have given a response of yes (green) and the response no (blue) was mostly given by the final years. Chi square test shows p=0.000, significant. Hence proving that there is a significant association between the year of study of the participants and the number of dental students who are aware of GBR (GUIDED BONE REGENERATION).

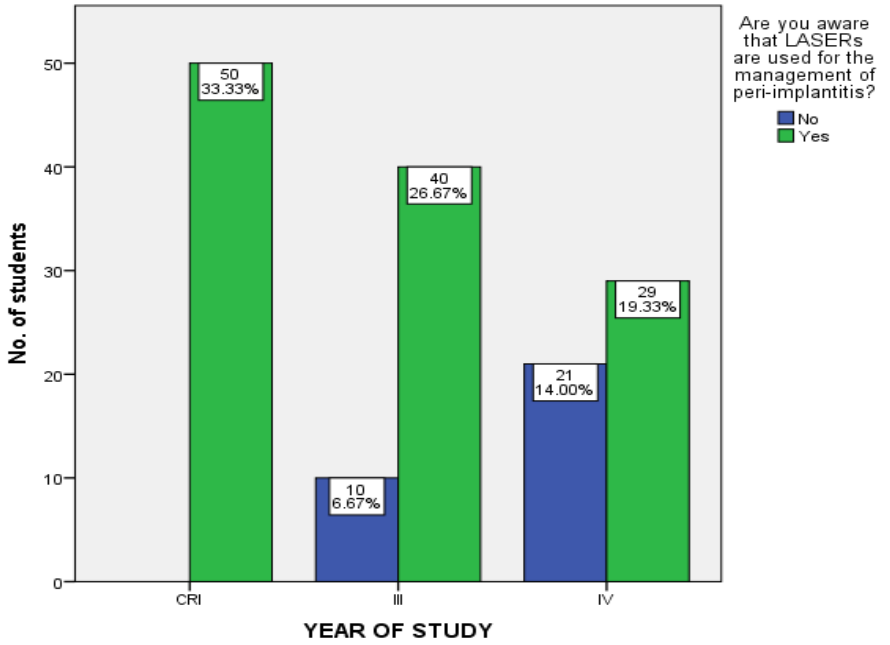

Figure 8: Bar graph denotes association between year of study of the participants and number of students who are aware that LASERs are used for the management of peri-implantitis.X axis denotes the year of study of the participants and Y axis denotes the number of dental students. Majority of the interns have given a response of yes (green) and the response no (blue) was mostly given by the third year. Chi square test shows p=0.000, significant.

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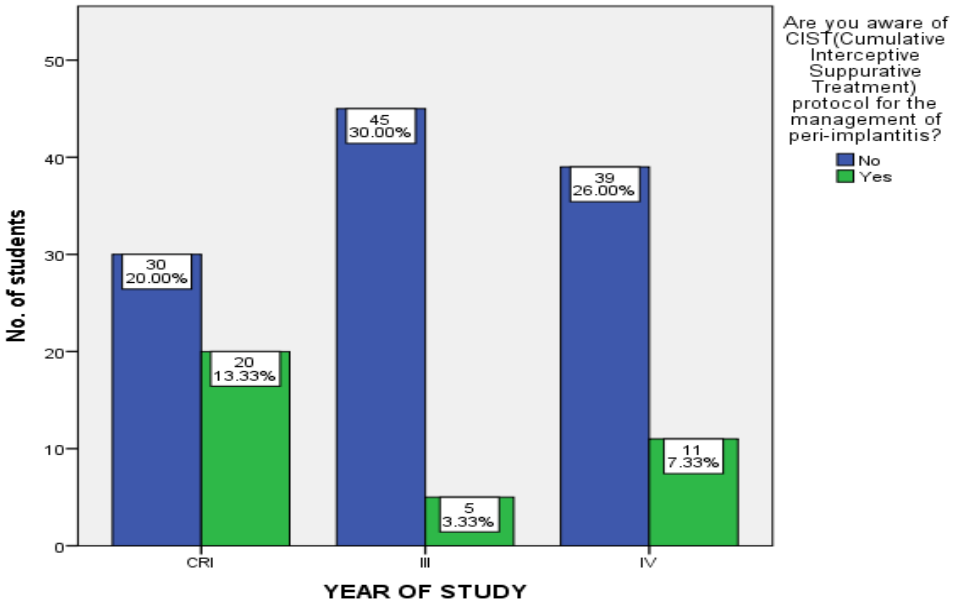

Figure 9: Bar graph denotes association between year of study of the participants and number of students who are aware of CIST (Cumulative Interceptive Supportive Treatment) protocol for the management of peri-implantitis.X axis denotes the year of study of the participants and Y axis denotes the number of dental students. Majority of the interns have given a response of yes (green) and the response no (blue) was mostly given by the third year. Chi square test shows p=0.000, significant. Hence proving that there is a significant association between the year of study of the participants and the number of dental students who are aware of CIST (Cumulative Interceptive Supportive Treatment) protocol for the management of peri-implantitis.

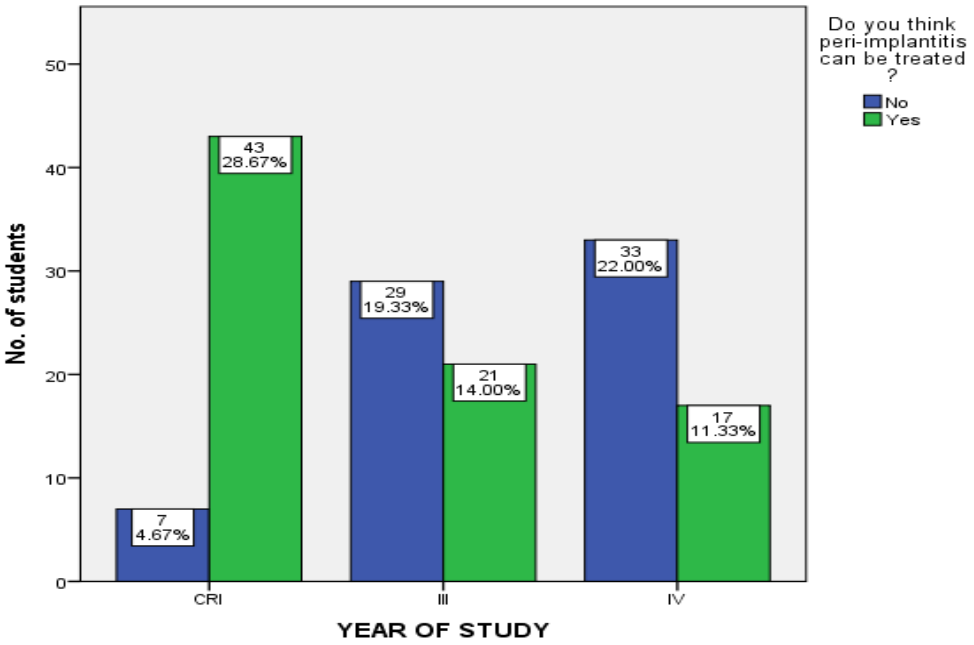

Figure 10: Bar graph denotes association between year of study of the participants and number of students who are aware that peri-implantitis can be

treated.X axis denotes the year of study of the participants and Y axis denotes the number of dental students. Majority of the interns have given a response of yes (green) and the response no (blue) was mostly given by the final years. Chi square test shows p=0.000, significant. Hence proving that there is a significant association between the year of study of the participants and the number of dental students who are aware that peri-implantitis can be treated.

From Figure 1, 33.33% of interns,26.67% of final years and 33.33% of third years were aware of the term peri-implantitis. From Figure 2 , 28% of interns,18% of final years and 19.33% of third years were aware of the term peri-implantitis mucositis. From Figure 3 , 33.33% of interns 26.67% of final years and 33.33% of third years were aware of the term peri-implantitis mucositis think placement of implants affects soft tissue growth. From Figure 4, 30.67% of interns,26.67% of final years and 15.33% of third years were aware of the difference between ailing and failing implants. From Figure 5, 30.67% of interns,9.33% of final years and 14.67% of third years were aware of the treatment modalities for peri-implantitis. From Figure 6, 33.33% of interns, 4% of final years and 11.33% of third years were aware of gingival grafts used around implants for soft tissue augmentation. From Figure 7, 27.33% of interns, 12.67% of final years and 15.33% of third years who were aware of GBR (GUIDED BONE REGENERATION). From Figure 8, 27.33.33% of interns,19.33% of final years and 26.67% of third years who were aware that LASERs are used for the management of peri-implantitis. From Figure 9, 13.33% of interns,7.33% of final years and 3.33% of third years who were aware of CIST (Cumulative Interceptive Supportive Treatment) protocol for the management of peri-implantitis. From Figure 10, 32.67% of interns,28% of final years and 21.33% of third years who were aware that peri-implantitis can be treated.

To achieve optimal methods of teaching oral implant clinical courses and by productively using applied virtual simulation platforms. This study sought to investigate the knowledge and experience of students teaching mode a. Thus, students can acquire the necessary and adequate skills before beginning their clinic practice.In another study, almost one hundred per cent of third-year students and 93.54% of fourth-year students believed that the information received during the degree course in dentistry was insufficient[29].This was found similar to our study were the the third years and final years responded less or unaware of certain complication of implants when such as whether peri-implantitis can be treated, protocols for treatment of peri-implantitis(CIST).(Figure 10,9,7 and 6)The teaching and training of the students in implantology includes both on practice models and directly on patients during the third year itself but have an insufficient knowledge on the management of implant post placement and insufficient theory knowledge on its management of most common With rapidly expanding use of dental implants, dental graduates may encounter more patients with dental implants. The monitoring and maintenance of those implants may then fall upon general dental practitioners[30] .

CONCLUSION

Within the limitation of the study it was seen that Interns had a good awareness on management of soft tissue post-implant placement when compared to the final and third years. This is because of the clinical expertise that the interns have acquired through clinical experience and clinical practice.

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CONFLICT OF INTEREST

Authors have no conflict of interest.

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