AWARENESS OF SINGLE PIECE IMPLANTS AMONG UNDERGRADUATE DENTAL STUDENTS

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Running Title: Awareness of single piece implants among undergraduate dental students

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Abstract:
The percentage of edentulism is increased for past decades. The reason behind is the health condition of the patient. There are various treatment options for restoring the edentulous condition. It can be fixed restoration or a removable restoration. Nowadays patients mostly prefer on fixed restoration. The aim of this study is assessing and create awareness about various implant treatment options among undergraduate dental students and its merits and demerits. A survey is taken in form of a questionnaire and it is given to 100 generals Dental practioners and students. This questionnaire was prepared based on the awareness about single piece implants among undergraduate Dental students. The questionnaire includes the type of implants they prefer, placement of implant, advantages and disadvantages of single piece implants as well as two-piece implants and preference of implants to patients based on criteria. The questionnaire consists of 12 questions and was distributed to 100 Dental students through online link using survey planet. The results were statistically analyzed. 79% of students do not prefer immediate implant placement and 21% of students prefer immediate implant placement.90% of the students do not do immediate implant restoration whereas 10% of the students do immediate implant restoration.62% of students prefer two-piece implants and 38 % of people prefer single piece implants. In full mouth rehabilitation, 72% of people prefer two piece implants and 28% prefer single piece implants.43% of students will prefer single piece implants over two piece implants and 57% students do not prefer single piece implants. The awareness about various implant treatment options among undergraduate dental students and its merits and demerits is adequate. It is the dentist responsibility to choose the right type of dental implants for the particular patient to provide simple procedures and to have better success rate. This survey helped to assess the dentist skill, knowledge and awareness about single piece implants.
Keywords: Survey, Implants, Prosthesis, treatment, dentists, dental students

I.   INTRODUCTION

The percentage of edentulism is increasing for past decades. This may be due to periodontal problem, systemic condition, tooth decay. Treatment can be fixed prosthesis or removable prosthesis(Gupta et al., 2010). In fixed prosthesis, implants are preferred for missing tooth. There are various types of implants considered based on aesthetics, function and success rate(Per-Olov Östman et al., 2007). Single piece implants are cost-effective when compared to conventional implants, as they eliminate the need for cover screws, healing abutments, subsequent separate implant attachments or separate implant abutments. They are getting popularised because of immediate loading, placement, easy surgical protocol and no screw loosening (Albrektsson et al., 2007).They are time effective as they eliminate the need for second stage surgery, mucosal healing period, and they also decrease patient exposure to additional unnecessary pain and discomfort. They provide fast, painless replacement of missed teeth Single piece Implants are less invasive and are either: immediately loaded in case of good bone quality, or progressively loaded in case of less than ideal bone quality. They are usually designed with dense v shaped or reverse buttress threads, acid etched sand blasted surfaces, to achieve high primary stability when loaded immediately, and with thick smooth collar for soft tissue integration (Pär-Olov Östman et al., 2010). They are available in very narrow diameters so can be used in thin ridge areas, especially in patients who cannot afford the cost of bone augmentation procedures. They can be used in small gaps mesio-distally to replace missed anterior teeth or premolars where standard diameter implants cannot be installed. Disadvantages may be aesthetics, low emergence profile. Two-piece implants are transitional implants which has its own advantages like better aesthetics and high emergence profile. Lack of information, awareness, cost of the treatment, and apprehension toward surgical procedures could be one of the several possible reasons that deter patients from opting for dental implants(Sennerby et al., 2008). Most of the knowledge, attitude, and practice studies on dental implants show conflicting results. Some studies have reported a higher level of awareness of 64.4%, 77%, and 79%, respectively(Tepper et al., 2003). In contrast to these findings, few studies showed relatively low level of awareness of 23.24% and 4.83%, respectively(Chowdhary et al., 2010).The aim of this study is to create awareness about various implant treatment options among undergraduate dental students and its merits and demerits

II.   MATERIALS AND METHODS

A survey is taken in form of a questionnaire and it is given to 100 generals dental practiners and students. This questionnaire was prepared based on the awareness about single piece implants among undergraduate Dental students. The questionnaire includes the type of implants they prefer, placement of implant, types of implants, advantages and disadvantages of single piece implants as well as two-piece implants and preference of implants to patients based on criteria. The questionnaire consists of 12 questions and was distributed through online link using survey planet. The results were statistically analyzed.

III.   RESULTS

From figure 1 it's seen that 8% of the students have been practising dentistry for less than a year;68% of students practise 2-5 years and 24% practise more than 5 years. Figure 2 shows that implants are placed by all undergraduate students. From figure 3, Implant dentistry is being practised by 73% of the students for less than 1 year,15% of the

students practise 2-5 years and 12% of students practise more than 5 years. Figure 4 shows that 79% of the students do not do immediate implant placement and 21% of students do immediate implant placement. From figure 5,90% of the students don't do immediate implant restoration and 10% of students do immediate implant restoration. Figure 6 shows that 62% of students prefer two-piece implants and 38% of students prefer single piece implants. Figure 7 depicts the advantages of two-piece implants where 24% of the students opted for less failures, 12 % of students chosen easy surgical protocol,5% opted for better aesthetics,16% opted for function and 43% opted for all above. Figure 8 explains about the disadvantages of two-piece implants where 25% of the students opted for emergence profile, 34% opted for abutment screw loosening, 22% answered implant failures and 19% opted for screw fracture. Figure 9 depicts the advantages of single piece implants where 18% of the students opted for less failures, 2 % of students chosen easy surgical protocol,31% opted for better aesthetics,17% opted for function and 32% opted for all above. Figure 10 explains about the disadvantages of single piece implants where 18% of the students opted for emergence profile, 30% opted for abutment angulation, 32% answered implant failures and 20% opted for technique sensitive. From figure 11, it's seen that 69% of the students prefer two-piece implants over single piece implants in full mouth rehabilitation and 31% prefer single piece implants over two-piece implants in full mouth rehabilitation.
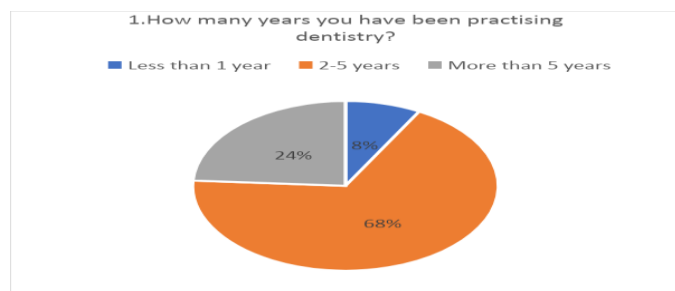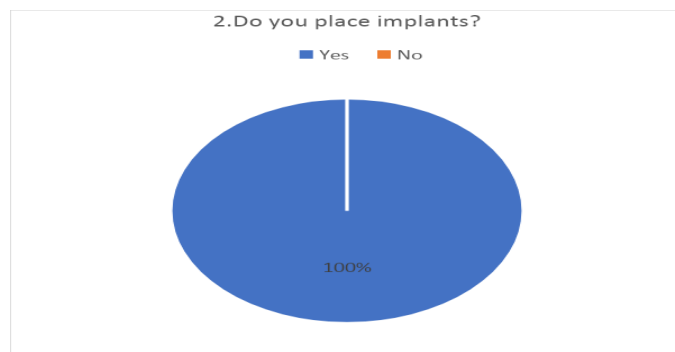

Figure 12 shows that in near future, 57% of students

won't prefer single piece implants and 43% said that they will prefer single piece implants.

Fig 1: Shows how many years the dentists are practising

Fig 2: shows the percentage of dentist placing implants
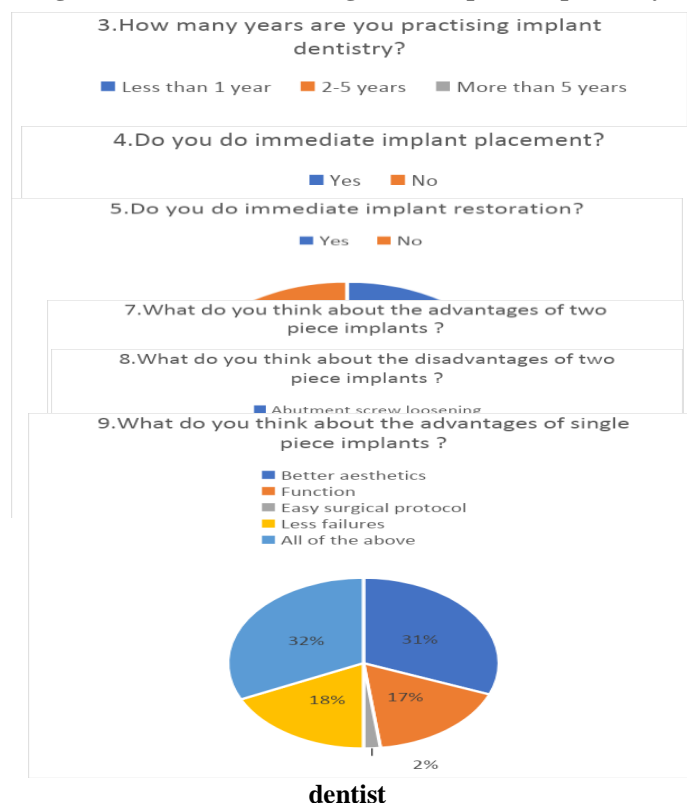**Fig 3: shows the percentage of dentist practising implant dentistry**
Fig 4: shows the percentage of immediate implant placement
Fig 5: shows the percentage of immediate implant restoration
Fig 6: shows the percentage types of implants by dentist
Fig 7: shows the percentage of advantages of two-piece implants
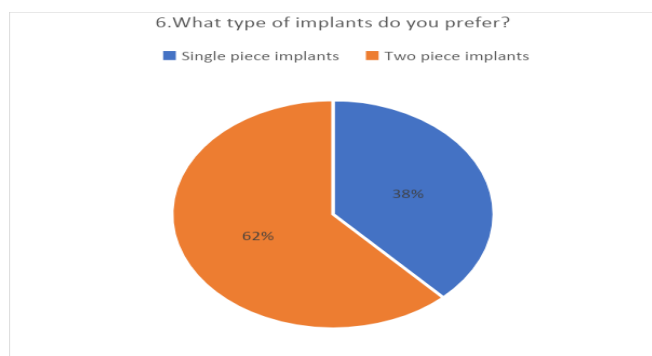**Fig 8: shows the disadvantages of two-piece implants by**

dentist

**Fig 9: shows the advantages of single piece implants**

Fig 10: shows the disadvantages of two-piece implants
Fig 11: shows the preferences of implant types in full mouth rehabilitation
Fig 12: shows the preferences of implant types by dentist

IV.   DISCUSSION

Single implants have expanded the ability of dentists to provide predictable replacements for missing or hopeless teeth. The ultimate outcome a satisfied patient is the result of careful assessment
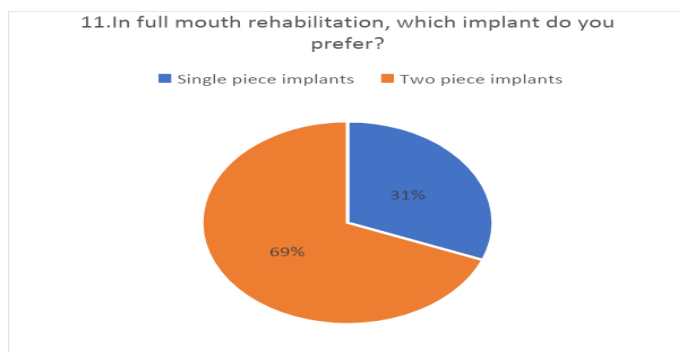

and meticulous surgical and prosthetic procedures by the dental team. Treatment outcomes for single implants are now excellent. Long-term success and survival rates are equivalent to those for endodontically treated teeth and are superior to those for tooth-supported fixed partial dentures (Neale & Chee, 1994). Short term-bone-level, soft tissue, and esthetic results are also excellent(Hartog et al., 2008; Neale & Chee, 1994). However, complication rates and the need for additional interventions may be higher than desired. The scientific study of prognostic factors for single implants is still in its

infancy. However, dentists need to make prudent treatment decisions now. Dentists also need to minimize the possibility of complications and the need for additional corrective procedures. Patients expect predictability, long-lasting functional results, minimally invasive procedures, comfort, minimal risks, minimal complications, and cost-effectiveness.(Telleman et al., 2011)

Placement of implants depend on patient's periodontal condition, abutment, surgical protocol,
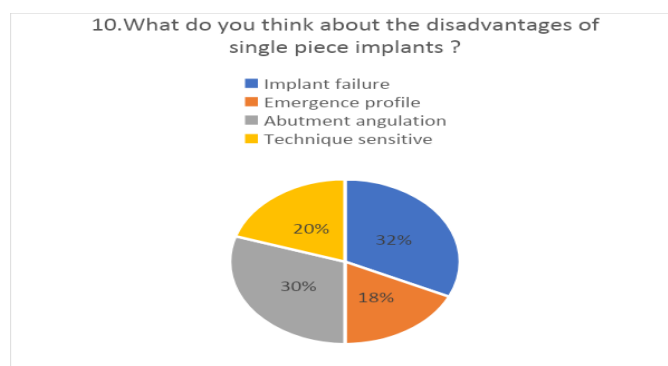
chances of implant failures, screw loosening, economic status etc. Placement of two-piece
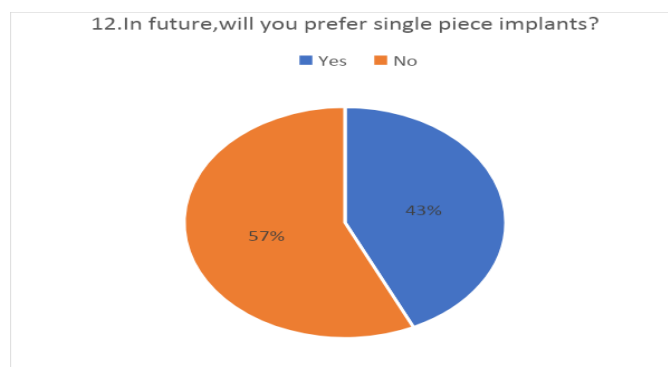
implants in full mouth rehabilitation is common nowadays cause of the better aesthetic value and function it offers and less failures where abutment screw loosening and less emergence profile is considered to be its disadvantages(Botticelli et al., 2004).

Implant treatment is an increasingly popular treatment option with a high success rate. Recently, it has become the focus of the patients' interest hence for dentist, it is vital to assess their level of

knowledge with regards to dental implants and whether their perception of dental implants does in fact reflect reality in order to guide patients who do not have the education or background knowledge to make an informed decision between implant supported dentures and removable dentures. However, preference of single piece implants or two-piece implants depends on the dentists knowledge, skill and awareness about implants.

V. CONCLUSION:

The awareness about various implant treatment options among undergraduate dental students and its merits and demerits is adequate. It is the dentist responsibility to choose the right type of dental implants for the particular patient to provide simple procedures and to have better success rate. This survey helped to assess the dentist skill, knowledge and awareness about single piece implants.

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