



Awareness of Dental Implants among Undergraduate Dental Students at Mangalore, India

KEYWORDS

Dental implant, awareness, dental education, dental graduate

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ABSTRACT *Though Implantology has become an important part of the graduate teaching program in most of the institutions, the level of awareness among the students regarding implant therapy needs to be assessed. The purpose of this study was to assess the awareness of implants among graduate dental students. A fourteen-item, both closed-ended and open-ended questionnaire was completed by 200 undergraduate students pursuing their internship. Collected data was statistically analyzed using SPSS 15.5 software. Only 25.5% of interns were aware that implants are a means of both fixed and removable replacement. More than 50% of the subjects knew the various indications of implant therapy though only 57.7% were aware that implants can be used in completely edentulous patients. Cost was considered as the major limitation of implant therapy. Only 40% opined that osseo-integration was the mode of retention in implants. More than 70% agreed that implant training should be a part of undergraduate clinical curriculum whereas 56.6% felt that masters in Implantology should be added as a speciality branch in dentistry. Within the limitations of this study, it can be concluded that the level of understanding and awareness among the students regarding implant therapy is incomplete.*

INTRODUCTION

Over the past three decades, significant advances have occurred in the field of oral and maxillofacial implants. Statistics on the use of dental implant indicate that about 100,000-300,000 dental implants are placed per year, ¹ Implants are currently used to replace missing teeth, rebuild the craniofacial skeleton, provide anchorage during orthodontic treatments and even to help new bone formation in the process of distraction osteogenesis.

Despite the impressive clinical accomplishments with oral and maxillofacial implants-and the undisputed fact that implants have improved the lives of millions of patients-it is nevertheless disquieting that key information is still missing in educating the undergraduates dental students regarding the fundamental principles of dental implants. Many studies have been reported which assessed the awareness and expectations of patients and general public regarding dental implants, but very little literature was found to assess the same in dental professionals.^{2, 3, 4, 5} In view of the increased clinical acceptance and patient demand for dental implants, there is an associated need to provide further education in this field for undergraduates dental students.

Though Implantology has become an important part of the undergraduate teaching program in most of the institutions, the level of understanding and awareness among the students regarding implant therapy needs to be assessed. This will aid in making necessary changes to standardize the teaching curriculum in Dental institutions. The purpose of our present study was to assess the awareness of implants among undergraduate students.

MATERIALS AND METHODS

A questionnaire based survey was conducted amongst 200 undergraduate students who have passed final year and have entered internship. Clearance for conducting the study was obtained from the Institutional Ethical Committee. Informed consent was taken from all the subjects participating in the study and a fourteen-item, both closed-ended and open-ended questionnaire was recorded to assess the awareness of implants among these students. The descriptive data was statistically analyzed using SPSS 15.5 software and the results were obtained.

RESULTS:

The results revealed that 46.6% interns agreed to implants being superior to other prosthetic treatment options while 38.8% were not sure of and 14.6% disagreed with the same. 62.2% of interns were aware that implants are a means of fixed replacement. 36.6% agreed and 33.3% disagreed with the fact that implants are equivalent to natural teeth in appearance and function. More than 88% were aware that implants can be used for the replacement of a single missing tooth, whereas 67.7% were aware that they can be used for the replacement of multiple missing teeth and 57.7% were aware that they can be used in completely edentulous patients also. About 74.4% knew that implants can be used in Maxillofacial prosthesis and 63% knew that they can be used in branches of dentistry other than Prosthodontics, mainly Oral and Maxillofacial surgery. 58% of the subjects considered cost as the major limitation while only 4.4% and 8.8% considered patients systemic condition and local oral factors as limitations respectively. Over 52% considered fibro-osseous integration as the mode of retention of implants in oral cavity whereas only 40% were aware of osseointegration. 16.6% agreed that implants should totally replace all the other prosthetic options while 41.2% disagreed with the same. 73.3% agreed that implant training should be a part of undergraduate clinical curriculum whereas only 4.5% disagreed with the same. According to 56.6% subjects, masters in Implantology should be added as a speciality branch in dentistry whereas 26.6% did not feel the need to do so.

Discussion:

Since the concept of osseointegration was introduced to the dental profession at the 1982 Toronto Conference, dental implants have been increasingly used to replace missing teeth in a variety of clinical situations. Conventional fixed bridges may no longer offer the best solution.⁶ Accumulated evidence reveals that implant-supported prostheses are conservative and predictable with regard to long-term success in uncomplicated cases.⁷ In the past decade, the popularity of implant dentistry has grown rapidly all over the world.⁸ However implant therapy as a part of undergraduate curriculum has often been neglected due to which awareness about various factors regarding implant therapy are misunderstood by the graduates of dental profession

itself. Hence this study was intended to know the level of understanding among the undergraduate students regarding implant therapy. About 46.6% of the subjects opined that implants are superior to other prosthetic treatment options available. One must not forget that every treatment modality has its indications and limitations. What may be the treatment of choice for one patient may not be acceptable in another.

There has always been a misconception that implants can be used only as fixed prosthetic options and this was evident in the present study where only 25.5% were aware that implants can be used in both fixed and removable prosthesis.^{9,10} Only 36.6% agreed and more than 30% were not sure of the fact that implants are equivalent to natural teeth in appearance and function. It must be understood that no prosthesis is superior to the natural teeth in either esthetics or function.

88.8% of the subjects were aware that implants can be used for single tooth replacement. While 67.7% responded that implants could be used for replacement of multiple teeth, it was surprising to note that only 57.7% were aware of its use in complete dentures. This may be attributed to the low awareness of the various treatment options available with implants.^{9,10} 74.4% of the subjects were aware that implants can be used in maxillofacial prosthetics. On the other hand none were aware that implants are also being used in orthodontics for anchorage.¹¹ This reflects on the poor curriculum being followed regarding the application of implants in various branches of dentistry.

Among the various factors, more than 50% considered cost as the major limitation of implant therapy. This is in accordance with various studies conducted to know the willingness of patients to consider implants as a treatment option.^{2,3,12} But with the advancements in implant systems, they are becoming more and more affordable and students need to be educated about this fact. Surgical procedures, patient's systemic conditions and local oral factors were not considered as a major limitation by many subjects. Because dental implant placement is a surgical procedure, candidates

must be in good overall health. Successful fusion of the bone to the implant requires good periodontal health. Hence people at higher risk of experiencing periodontal disease such as those with diabetes¹³ or those who smoke,¹⁴ might not be good candidates for implant therapy. This suggests that multiple factors have a role to play in the overall success of an implant and a single factor cannot be considered as the only limitation. It was surprising to note that only 40% subjects knew that implants were retained through osseointegration. This key factor is the basis of implant success and must be taught to the students at the undergraduate level itself.¹⁵ 16.6% subjects responded that implants should replace all other prosthetic treatment options available. This can be justified since implants may not be the ideal treatment option in every case as local and general factors have a major role to play in case selection.¹⁶ Over 70% subjects feel the need to have implant training as a part of their undergraduate clinical curriculum whereas about 56.6% feel that it should be made into a separate speciality. In the present decade Implantology is no longer a branch of sheer wishful thinking and empiricism but has evolved into a more definitive entity. Hence it can be justified that Implantology should be a separate specialty rather than being a part of various other specialties. However the awareness and knowledge regarding implants has to be inculcated right from the undergraduate level so that these young graduates can bridge the information gap still existing in the society.

Conclusion:

Within the limitations of this study, it can be concluded that though Implantology has become an important part of the undergraduate teaching program in most of the institutions, the level of understanding and complete awareness among the students regarding implant therapy is poor. Necessary changes should be undertaken to standardize the teaching curriculum in Dental institutions. As this study was conducted in a limited student population, further detailed surveys including more number of institutions should be done to validate the results of the present study.

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