

Awareness and Knowledge of Dental Implants as a Treatment to Replace Missing Teeth Amongst Paramedical and Allied Health Sciences Students

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ABSTRACT

BACKGROUND

Loss of natural dentition is a disease which leads to problems associated with mastication, speech, aesthetics and a person's psychology. Rehabilitation of the same is a necessity to restore the form and function of stomatognathic system. Many treatment options are available to restore the missing teeth. Rehabilitation using dental implants is a newer treatment option which helps in improving the function and self-confidence of the patient.

METHODS

This descriptive study was conducted amongst 200 students of Paramedical and Allied Health Sciences students. 200 students were divided in two groups, groups 1 (first year and second year students) and group 2 (third year and fourth year students). They were asked 20 questions related to awareness of implants as a treatment option to replace a missing tooth.

RESULTS

22.5 % of the students believed that it is important to replace missing teeth. More than half of the students were somewhat aware about the availability of dental implants as a treatment option for missing teeth. For 60.4 % and 44.4 % students of group 1 and 2, the source of knowledge about dental implants was from relatives and friends respectively. 59.4 % and 76.8 % of students from group 1 and group 2 respectively are ready to recommend implants as a treatment option to their patients.

CONCLUSIONS

49.5 % and 56.6 % students from group 1 and group 2 respectively had heard about intraoral implants as an option of treatment. The overall cognizance is less amongst the students. Efforts should be made to increase awareness about dental implants amongst students so that their patients can also get benefitted and an overall increase in awareness and knowledge about dental implants is increased amongst the general public.

KEY WORDS

Awareness, Implant Supported Prosthesis, Treatment Option

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BACKGROUND

Edentulousness either partial or complete is a major ailment. It is popularly linked to aesthetic, psychosocial and functional shortcomings since times immemorial.¹ Reconstruction and repair of this loss is mainly by substituting the lost dentition with artificial replacement of teeth either in the form of dentures which are fixed or removable restoring the lost appearance and function. The replacement should in fact camouflage the defect in total.

Dental implantology is a rapidly growing speciality in the field of dentistry. Dental implant simulates the radicular part of tooth, surgically placed into the ostium to support a replacement tooth / tooth, partial or complete dentures or maxillofacial prosthesis.² With the advancement in technology, implant supported prosthesis are being widely used to replace missing teeth. Dental implant treatment provides excellent long-term results in rehabilitation of partially or completely edentulous patients. It preserves the properties such as retention and stability of denture, masticatory efficiency and life quality.

There has been seen an increased awareness amongst all individuals about novel options of treatment in the form of implants for substitution of missing teeth. The aim of this study is to determine the awareness of dental implant as a treatment options for replacement of missing teeth in Paramedical students and Allied Health Sciences students.

The paramedical staff and allied health workers form a significant part of the hospital manpower apart from the medical doctors and dental specialists. They play a very important role in awareness among the masses as they are in a constant interactive session with the patients and the general public. They act as educators for the general public and their knowledge about the treatment option may prove beneficial for the patient.

In this study a survey of the cognizance of dental implants as a choice of substitution of missing tooth among paramedical students and allied health students was evaluated.

METHODS

A descriptive study was designed. Stratified random sampling technique was used for the purpose of the study. All the participants were made aware of the aims and objectives of the study and informed consent was obtained. The printed questionnaire survey forms were distributed amongst 200 paramedical and allied health sciences students, 100 belonging to first and second year and 100 from third and fourth year. Sample size was selected on the basis of review of literature of the previous research. The formula used for estimating the sample size was, $n = 4 pq / d^2$, $p = 8$, $q = 92$, $d = 4$, $n = 4 * 8 * 92 / 4^2 = 184$ which is rounded off to 200.

The questionnaire consisted of 20 questions which were validated out of which 10 were designed to assess the knowledge and awareness regarding implants as a treatment option and their willingness to recommend it to their patients and another 10 questions were related to their general knowledge regarding various prosthetic treatment options.

Statistical Analysis

Descriptive statistics were generated, to analyze the responses. Percentage values were used, and Chi-square test was done for comparison between the two groups. The level of significance was set at 0.05.

RESULTS

200 students divided into groups 1 and group 2 to assess difference in opinion regarding the subject between the two groups. Both the groups were asked 20 questions related to knowledge and awareness of implants as option of treatment to replace a missing tooth. 14.9 % and 24.2 % of the students from group 1 and group 2 respectively had missing tooth. A total of 22.5 % students believe that replacement of missing tooth is very important. 49.5 and 56.6 % students from group 1 and group 2 respectively had somewhat heard about implants as a treatment option for missing dentition. Only 6.5 % of the total students are aware of the dental implants to a large extent. 78.2 % and 82.8 % from group 1 and group 2 respectively believe that fixed replacement options have advantage over the removable option. 31 % of the total students believe that fixed rehabilitation is as good as one's own teeth. 60.4 % and 44.4 % students of group 1 and 2 had heard about implants from friends and relatives respectively and 23.8 % and 20.2 % students of group 1 and group 2 respectively know about the treatment option from books, newspapers and magazines. 30.5 % of the total students would definitely like to know more about dental implants and only 4 % of the total students are not interested in knowing about the treatment option. 19.8 % and 15.2 % students of group 1 and 2 respectively believe that dental implants will last a lifetime. 62.6 % of group 2 students believe implants and natural dentition needs the same hygiene care. According to the opinion of the participant students in the study high cost and need for the surgery is a major disadvantage for the treatment option. 68 % and 78 % of the group 2 students of the total students would like to recommend implant as a treatment option to their patients.

Questions	Responses	Group 1	Group 2	Total
1. Do you have any missing teeth?	Yes	15 14.9 %	24 24.2 %	39 19.5 %
	No	86 85.1 %	75 75.8 %	161 80.5 %
2. Do you think the replacement of missing Teeth is important?	Very important	21 20.8 %	24 24.2 %	45 22.5 %
	Somewhat important	60 59.4 %	57 57.6 %	117 58.5 %
	Neither important nor unimportant	18 17.8 %	13 13.1 %	31 15.5 %
	Not important at all	2 2.0 %	5 5.1 %	7 3.5 %
3. To what extent are you aware of the different treatment options available?	To a large extent	4 4.0 %	9 9.1 %	13 6.5 %
	To a moderate extent	53 52.5 %	49 49.5 %	102 51.0 %
	To some extent	39 38.6 %	34 34.3 %	73 36.5 %
	Not at all	5 5.0 %	7 7.1 %	12 6.0 %
4. Which Tooth replacement has an advantage in your view?	Removable	22	17	39
	Replacement	21.8 %	17.2 %	19.5 %
	Fixed Replacement	79 78.2 %	82 82.8 %	161 80.5 %

Table 1. Summary of Descriptive Statistics Based on Awareness

Questions	Responses	Group 1	Group 2	Total
1. Would you like to know more about dental implants?	Definitely	29 28.7 %	32 32.3 %	61 30.5 %
	Likely	43 42.6 %	31 31.3 %	74 37.0 %
	Maybe	27 26.7 %	30 30.3 %	57 28.5 %
	Definitely Not	2 2.0 %	6 6.1 %	8 4.0 %
2. How long do you think a dental implant lasts?	Lifetime	20 19.8 %	15 15.2 %	35 17.5 %
	More than 10 years	43 42.6 %	34 34.3 %	77 38.5 %
	< 5 - 10 years	26 25.7 %	27 27.3 %	53 26.5 %
	Not Sure	12 11.9 %	23 23.2 %	35 17.5 %
		36 36.6 %	32 32.3 %	68 34.5 %
3. What do you think is the disadvantage of dental implant in your view?	Need for Surgery	33 32.7 %	38 38.4 %	71 35.5 %
	Long Treatment Time	17 16.8 %	14 14.1 %	31 15.5 %
	Not Aware	14 13.9 %	15 15.2 %	29 14.5 %
4. Do you think implant placement is an invasive procedure?	Yes	77 76.2 %	72 72.7 %	149 74.5 %
	No	24 23.8 %	27 27.3 %	51 25.5 %

Table 2. Summary of Descriptive Statistics Based on Knowledge

DISCUSSION

Dental implants are the norm of today's prosthetic and restorative dentistry. Reasons for tooth loss are several. Diseases of gums and bone, tooth decay, trauma and operator induced loss. All these can diminish the patient confidence. Replaced teeth are secured in place with the aid of intra oral implants simulating a natural root portion of a tooth. Complete dentures which are removable have several shortcomings. Lack of stability decreased functional ability etc., which could be overcome by implants. Dental implants stand to be much superior alternatives which provide a stable foundation and improve the life quality and comfort of the patient.

At present, dental implants are best accepted as a prosthetic treatment in partial and complete edentulous patients. Various studies have been done to assess the biocompatibility of different implants and it was found that dental implants are a satisfactory replacement for the teeth and made of materials which are well accepted by the body. Knowledge of dental implant must be made available to the patients to aid them in the selection as most relevant option. Different countries based on several studies have demonstrated various levels of understanding about the treatment options pertaining to dental implants

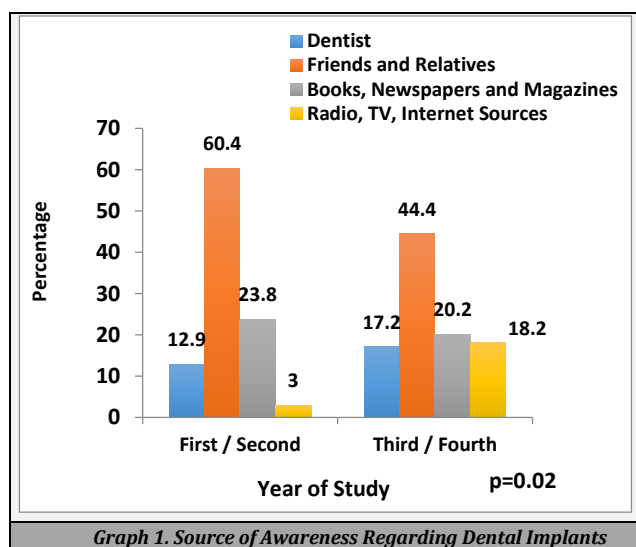
Information regarding the use of dental implant can be obtained by various means like health sector worker, television, journals, friends, internet, and advertisements.

In the present survey, self-administered structured questionnaires were given to 200 Paramedical and Allied Health Sciences students and the students were categorised into two groups, 1 and 2, group 1 consisted of students of first and second year and group 2 consisted of third and fourth years. The students belonged to the age group of 19 - 25 years. 58.5 % (117) students believed replacement of missing teeth is somewhat important. 24.2 % students of group 2 believed that replacement of teeth is very important. It is in accordance with Mayya et al.² in their study 21.9 % of those questioned felt need of replacement of teeth merely to close any visible gap.

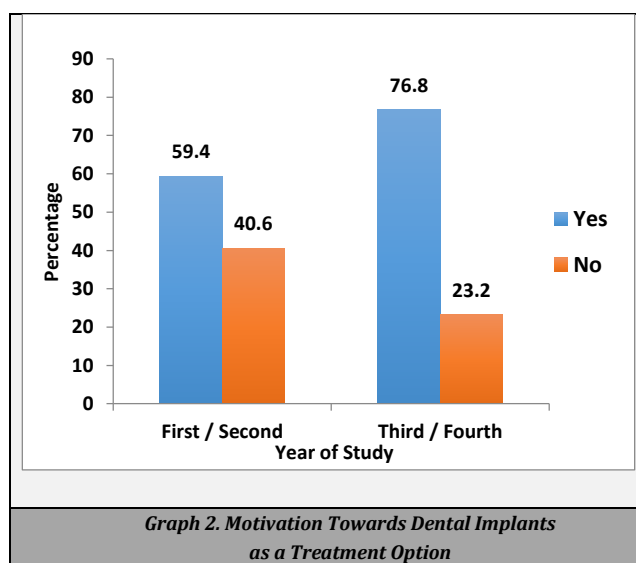
49.5 % and 56.6 % students from group 1 and group 2 respectively have somewhat heard about dental implants as substitutes to lost teeth as compared to a study done by Sheth et al³ where approximately more than 95 % interns were aware of implants as a treatment option.

When asked which is better replacement option removable prosthesis or fixed prosthesis 80.5 % (161) students believed fixed prosthesis had more advantage. When asked where they obtained knowledge about dental implants, a significant difference was seen in the options and both, groups 1 and 2 had heard more from friends and relatives 60.4 % and 44.4 % respectively. Sheth et al³ found 20 % had heard from other sources. In the study conducted by Rustemeyer and Bremerich⁴ reported that the contribution of internet, books, and magazines was very low which is in concurrence with the present study.

28.7 % and 32.3 % students would definitely like to know more about dental implants from group 1 and group 2. Only 17.5 % (35) students, 20 from group 1 and 15 from group 2 believed that implants last a lifetime.



Graph 1. Source of Awareness Regarding Dental Implants



Graph 2. Motivation Towards Dental Implants as a Treatment Option

Sheth et al³ saw 50 % interns approximately rated long-term survival of implant. Whereas in 2015 a study conducted by Chaudhary et al⁵ asked about the persistence of implants, 17.1 % of respondents believed that replacement treatment with implants are a permanent solution substantiating results of the present study

High cost of placement (34.5 %) and surgical placement (35.5 %) is considered a disadvantage for implant placement by most of the students. In a study by Deeb et al⁶ it was found that majority of the people believed cost of the procedure is a major factor for not opting for this treatment option. 68 % (136) students would recommend implant as a treatment option to their patients. 61.5 % interns in 2013 showed a positive attitude toward including implant in clinical practice in a survey conducted by Sheth et al.³ A recent study by Kohli et al.⁷ concluded that over 80 % of the study group felt the high cost was a deterrent. These results are in agreement with most of the previously mentioned studies conducted by Zimmer et al⁸ and Tepper et al.⁹

In present survey it was seen that the awareness and knowledge gained by students about implants is less obtained from books or from their dentist. It is believed that short term courses should be provided to the students to increase their knowledge about dental implants as they play a major role in further educating their patients about treatment options.

Considering the general knowledge amongst the participants regarding various other prosthetic treatment options for replacement of the lost teeth, fixed treatment option was preferred by most of the participants.

CONCLUSIONS

49.5 % and 56.6 % students from group 1 and group 2 respectively had heard about dental implants to a small extent as a treatment option. 11 % of the student that is 22 students out of 200 knew about dental implants and 53 % of the students were to a small degree aware of the implant therapy as an option to replace missing teeth. So, the overall knowledge amongst the students was low. Only 68 % showed a positive attitude towards implant therapy and were willing to recommend implant as a treatment option to their patients. Efforts should be made to increase the awareness about dental implants amongst the students so that their patients can also get benefitted and an overall increase in awareness and

knowledge about dental implants is increased amongst the general public.

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