

AWARENESS OF DENTAL IMPLANTS AMONG UNDERGRADUATE MEDICAL AND DENTAL STUDENTS: A SURVEY STUDY

¹KHALID MAHMOOD SIDDIQI

²MUHAMMAD ZEESHAN BAIG

³ZARMINA IFZAL

ABSTRACT

Dental implants are becoming the everyday practice in dental office now a day. The present study was conducted to evaluate the awareness about dental implant in undergraduate medical and dental students. A cross sectional survey was done. All undergraduate students of first and second year medicine and dentistry program were approached and invited to participate in the study. A paper based self-administered questionnaire was distributed in a class room setting. A total of 277 participants (189-Medicine, 88-Dentistry) participated in the study. Response rate was 92.3%. The participants who know dental implants as treatment option for replacing missing tooth/teeth were 178(64.3%). Friends and relatives were the major source of information (55.1%). In response to question whether they will choose dental implant as replacement method for their missing tooth in future, only 131 out of 178 gave positive agreement. The main reason for refusing to implant treatment is the involvement of surgical phase in it. With this study, it can be concluded that the level of understanding and awareness among the dentistry students are higher than medicine students regarding dental implants.

Key Words: *Tooth replacement, Advancement in dentistry, Treatment awareness, Knowledge, Oral health awareness, Missing teeth.*

INTRODUCTION

Implant dentistry has evolved into the mainstream of restorative procedures worldwide. It has been recorded as the most noteworthy advancement in dentistry within the last five decades.¹ Dental implants placement is increasing as time passing. According to an estimate in 2010 about 100,000-300,000 dental implants are placed per year.² Dental implants are considered the most equivalent replacement for the natural teeth. They are a useful addition in the dental management of patients who lost their teeth because of any systemic/oral disease, trauma or any developmental anomalies.³ A number of dental implant systems are available in market with varied rate of price and scientific research and trials backup.⁴

Dental implants have given the profession and the patient an effective and revolutionized means of tooth replacement.⁵ It is the responsibility of health care providers to update the general population about the new technologies in the field of medicine/dentistry. Awareness amongst the undergraduate medical/dental students concerning any new update in their field will be beneficial in educating the general population. Undergraduate students are considered the ambassadors of the specialty. Student's awareness regarding the dental implant can help in eradicating any negative reflection of this procedure that may have been caused due to lack of adequate information.¹

Literature showed various levels of awareness among patients, general population and undergraduate students.⁶⁻⁹ There is scarcity of literature in which comparison was done regarding undergraduate students of BDS and MBBS programs. A study was planned to evaluate the awareness regarding dental implants in 1st and 2nd year MBBS and BDS students.

After getting to know more about this advancement, further tooth or bone loss can be prevented with more options for esthetics being provided. Awareness regarding any new advancement increases its acceptability especially if it is an elective procedure.¹⁰ It was

¹ Dr Khalid Mahmood Siddiqi, (**Corresponding Author**), BDS, MDS, Associate Professor, Oral & Maxillofacial Surgery, Islamabad Medical & Dental College, Bhara Kahu, Islamabad
Email: drkhalidms@gmail.com Cell: +92-300-5105215

² Dr Muhammad Zeeshan Baig, BDS, MCPS, Assistant Professor, Oral & Maxillofacial Surgery, Islamabad Medical & Dental College, Bhara Kahu, Islamabad Email: zeesh7@hotmail.com
Cell: +92-321-4669917

³ Dr Zarmina Afzal, BDS, House Officer, Islamabad Dental Hospital, Bhara Kahu, Islamabad Email: zarmina.ifzal@iideas.edu.pk

Received for Publication: September 7, 2017

Revised: October 11, 2017

Approved: October 19, 2017

assumed that based on this study results necessary changes can be suggested in the curriculum regarding dental implant teaching and learning.

METHODOLOGY

A cross sectional study was done to evaluate the awareness about dental implants among undergraduate students of medicine and dentistry programs. A self-administered questionnaire was developed and piloting was done on a group of fifteen students for correction and modifications. Approval of the study was obtained from the Institutional review board. Study objectives were explained to the participants and a self-administered questionnaire was distributed in a class room setting and collected in the same visit. Collected filled questionnaire were coded and data were entered in SPSS version 23. Descriptive analysis was carried out and results were presented in table and figures. Comparison of first year and second year as well as medicine and dentistry was also done using chi square test. P-value of < than 0.05 at 95% confidence interval was considered significant.

RESULTS

A total of 277 students participated in the study. The students registered in MBBS program were 189 (68.2%) and in BDS 88 (31.8%). The distribution of students in first and second year according to study programs are shown in Table 1. Regarding the replacement of missing teeth, 151(54.5%) participants had the knowledge of partial denture as replacement and 113(40.8%) had the knowledge of bridge. The participant who were familiar with dental implant as replacement method were 178(64.3%) (Distribution according to program and year are given in Table 2) out of which 111(40.1%) knows anybody who underwent implant rehabilitation. When knowledge of implant as replacement method was compared between MBBS and BDS, statistically highly significant difference (p-value<0.001) was found. No statistical difference (p-value>0.05) was found when compared 1st year with 2nd year. Among those who were familiar with implant only 38 BDS and 17 MBBS students (30.9%) had the knowledge about implant placement procedure. Statistically highly significant difference (p-value<0.001) was found in MBBS and BDS.

When source of information regarding implant were analyzed, most of the students 55.1% get information from friends and relatives followed by their dentist 39.8%. Books/magazines and internet also contributed information to students 22.5% and 27% respectively. Only 3.4% BDS students get information from college.

Different places including hospitals and clinics were identified by the students in twin cities of Islamabad/Rawalpindi where dental implant treatment was provided. Islamabad Dental Hospital was mentioned by majority of BDS students.

In response to question whether they will choose dental implant for their missing tooth replacement in future, only 131 out of 178 gave positive agreement. More BDS students 80.5% gave consent for implant treatment as compared to MBBS students 68.3% but no statistical difference (p-value>0.05) was found in when compared MBBS with BDS and 1st year with 2nd year. Reasons for not giving consent were shown in Fig 2.

TABLE 1: DISTRIBUTION OF STUDENTS IN YEARS AND PROGRAMS

	Year of study		Total
	1st Year	2nd Year	
MBBS	91(32.9%)	989(35.4%)	189(68.3%)
BDS	46(16.6%)	42(15.1%)	88(31.7%)
Total	137(49.5%)	140(50.5%)	277(100%)

TABLE 2: DISTRIBUTION ACCORDING TO YEAR AND PROGRAM OF IMPLANT AWARENESS AS REPLACEMENT METHOD

		Yes	No	Total	
MBBS	1st Year	39	52	91	189
	2nd Year	62	36	98	
BDS	1st Year	38	8	46	88
	2nd Year	39	3	42	
Total		178	99	277	

TABLE 3: SOURCE OF INFORMATION REGARDING IMPLANT IN YEARS AND PROGRAMS

	MBBS		BDS		Total
	1st Year	2nd Year	1st Year	2nd Year	
Dentist	17	20	16	18	71
Books/ magazines	5	12	6	17	40
Internet	8	19	8	13	48
Friends/ relatives	19	45	18	16	98
College	—	—	1	5	6
TV	2	—	—	—	2

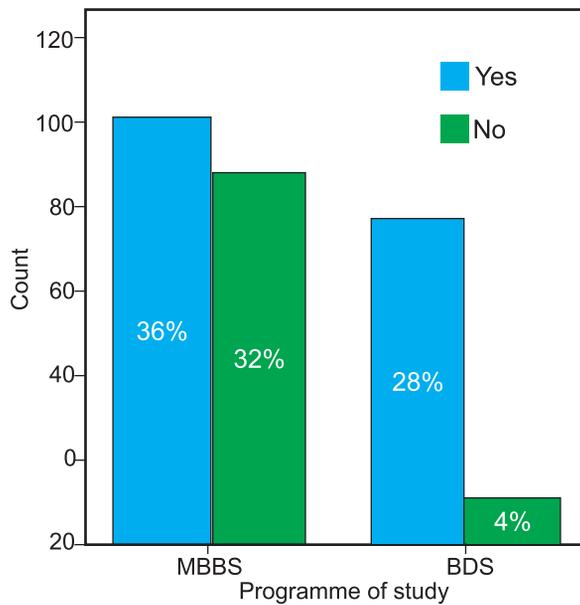


Fig 1: Student distribution in years and program

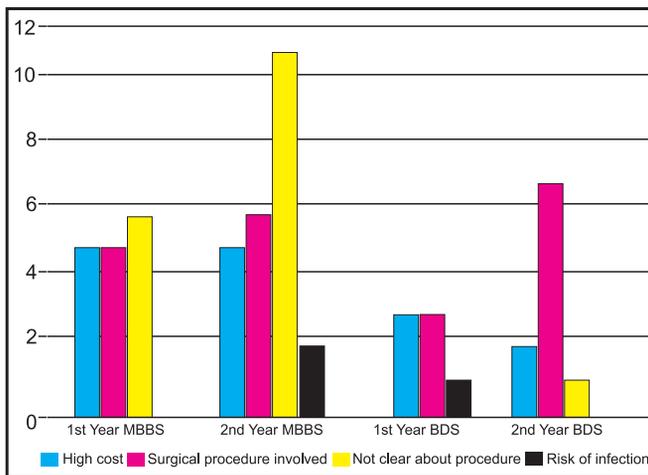


Fig 2: Reasons for not giving consent of implant treatment in future

DISCUSSION

General health of the individuals is influenced by many factors including dental health. Loss of teeth not only effect general or dental health but also psychological status of the individual.¹¹ It is not only the functions which are compromised by losing teeth rather aesthetic, phonetics and face shape are also affected with this. Replacing missing tooth/teeth are mandatory to avoid the worsening of oral and general health as well as to maintain aesthetic, phonetics and face shape.¹²

Present study gives us an overview about the knowledge and awareness of undergraduate (1st & 2nd Year) medical and dental students regarding replacement methods of tooth/teeth. More participants were aware of dental implant (64.3%) as replacement

method as compared to partial denture (54.5%) and bridge (40.8%). A study from Lahore-Pakistan reported awareness of dental implants in patients only 39.8%¹³ but study from India reported up to 75%.⁹ Another study reported 46.6% dental students to be aware of dental implant.⁸ Dental implant is newer method as compared to others. This difference of awareness could be attributed to the information technology boom in the last ten years. Dental implant treatment is now also available in many public/teaching as well as private dental setting. More BDS student’s awareness as compared to MBBS students can be related to their dental program and their rotations in clinical departments.

Awareness regarding any treatment modality can be created in masses by media, professionals and word of mouth. Regarding dental implants friends/relatives found to be major source of information in this study followed by dentist. Books/magazines and internet also played their role to aware the students regarding dental implants. Same finding was reported in a study conducted in Karachi¹⁴ and Lahore.¹³ Media is leading source of information in some countries while dentists and casual advise from friends and relatives in others.^{9,14} Many social, religious and cultural factors affect attitudes and beliefs regarding any dental treatment acceptance.¹⁵

Among the participants who are familiar with dental implants, more (73.6%) are willing to choose dental implant as treatment of their missing tooth/teeth in future. More of dentistry students give consent for future dental implant treatment as compared to medicine students. Same results are reported in other studies.^{13,16}

The reasons of not giving the consent for dental implant treatments by participants are surgical phase is involved and secondly they are not clear about the procedure. Other reasons include cost and risk of infection during procedure. High manufacturing cost, high dentist cost, long duration of treatment were reported by another study.¹⁶ High cost as reason for refusing the implant treatment was also reported in couple of studies.^{13,14}

Significant difference is observed in dentistry and medicine students regarding the awareness of dental implants. It is important to inculcate the awareness and knowledge about dental implants right from the undergraduate level so that message can be spread to masses of community by these ambassadors. Necessary arrangement should be made for medicine students so they can be made more aware about dental advancements.

CONCLUSION

This study concluded that the understanding and awareness among the dentistry students was quite good as compared to the medical undergraduate students. Students in 2nd year were more aware as compared to 1st year. Surgical phase and clarity about the procedure are main reasons for not choosing the dental implant as treatment.

REFERENCES

- Saxena V, Lohiya J, Bhambal A, Vanka S, Talreja N, Kankana N. Out-Look of undergraduate dental students on dental implants in Bhopal, central India. *Int J of Scientific Study*. 2014;1(6):2-8.
- Gupta A, Dhanraj M, Sivagami G. Status of surface treatment in endosseous implant: A literary overview. *Indian J Dent. Res.* 2010;21(3):433-38.
- Palmer R. Introduction to dental implants. *Br Dent J.* 1999;187:127-32.
- Alqahtani F, Alqahtani H, Alshalwi A, Alzahrani H. Patients' awareness of a dental implant as an option for tooth replacement: a survey in Alkharij Province, Saudi Arabia. *Int J Dent Oral Health*. 2015;1(3):1-4. doi <http://dx.doi.org/10.16966/2378-7090.113>.
- Narcisi EM, Tucker MR. *Implant Treatment: Basic concepts and techniques*. Contemporary oral and maxillofacial surgery. 6th ed. Mosby, an affiliate of Elsevier Inc; 2014. p.234.
- Kumar MPS, Gayathri MM. Knowledge and awareness among patients about dental implants. *J Pharm Sci Res.* 2016; 8(5): 351-54.
- Satpathy A, Porwal A, Bhattacharya A, Sahu PK. Patient awareness, acceptance and perceived cost of dental Implants as a treatment modality for replacement of missing teeth: A survey in Bhubaneswar and Cuttack. *J Public Health Dent.* 2011;2(1):1-7.
- Prashanti E, Mohan M. Awareness of dental implants among undergraduate dental students at Mangalore, India. *Indian J Appl Res.* 2013;3(10):1-2.
- Ahamed ST. Awareness of dental implant on general population. *J Pharm Sci Res.* 2016; 8(7): 632-34.
- Ghani F, Moeen F, Nisar S. Patients' knowledge and awareness levels for implant-supported dental prostheses at a teaching dental hospital. *JPDA.* 2013;22(2):78-83.
- Khosya B, Devaraj CG. Awareness Of Dental Implants As A Treatment Modality Among People Visiting Mahatma Gandhi Dental College & Hospital, Jaipur. *Natl J Med Res.* 2015;29: 25-34.
- Barias PA, Lee DJ, Yuan JC, Sukotjo C, Campbell SD, Knoernschild KL. Retrospective analysis of dental implants placed and restored by advanced prosthodontic residents. *J Prosthodont.* 2013;22(2):157-63.
- Malik A, Afridi JI, Ehsan A. Knowledge perception and choice of dental implants as a treatment option for patients visiting the university college of dentistry Lahore-Pakistan. *Pak Oral Dent J.* 2014;34(3):560-63.
- Sohail M, Aslam H, Ahmed N, Faruqi S, Maqsood A, Ansari MA, Buksh HA. Awareness, knowledge and reluctance regarding dental implants. *Donn J Dent Oral Hyg.* 2016;2(1):1-4.
- Theobald AH, Wong BK, Quick AN, Thomson WM. The impact of the popular media on cosmetic dentistry. *NZ Dent J* 2006; 102: 58-63.
- Kumar S, Chauhan A. Knowledge and awareness of dental implants in India: An exploratory study. *Int J Oral Health Med Res.* 2015;2(4):29-33.

CONTRIBUTIONS BY AUTHORS

- Khalid Mahmood Siddiqi:** Conception, design, analysis and interpretation of data/proof reading.
- Muhammad Zeeshan Baig:** Drafting of the manuscript/ proof reading.
- Zarmina Ifzal:** Collected the data and helped in data analysis.