



A Cross Sectional Study to Evaluate Relative Awareness About Different Implant Abutments in Anterior Aesthetic Region: A Survey based

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KEYWORDS

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ABSTRACT:

Background and Aim: Loss of teeth affects both a person's appearance and performance. It also poses a negative impact on psychological and social wellbeing. Implant abutment is an integral part of implant supported prosthesis. There is a difference in the level of awareness about dental implant abutment among population. The aim of this study was to conduct a cross sectional survey study to evaluate relative awareness about different implant abutments in anterior aesthetic region.

Materials & Methods: Total forty dentists were selected by random sampling procedures. Questions concerning about implant abutment were framed and given to dentists for their opinions. Total five questions were set and evaluated logically. In the conduct of this survey, the guidelines of ethical consideration were strictly adhered to and participants filled out the questionnaire after signing informed consent. Data was sent for statistical analysis using SPSS software. P value less than 0.05 was kept as significant.

Statistical Analysis & Results: Results showed that in 25-29 years age group, total 6 patients were seen. P value was highly significant for this age group (0.02). Also, p value was highly significant in response to the question 'Awareness of dental implant abutment retention systems and costs'. Similarly, the P value was highly significant in response to the question 'Familiarity with custom made implant abutments'.

Conclusion: Authors concluded that dental implant abutment awareness relatively fair in studied dental practitioners. Most of the participants have good knowledge of prefabricated and custom made implant abutments. Authors also expect other long term studies to be conducted in order to establish other significant guidelines in these regards.



Introduction

Dental implant is now a widespread treatment option for the rehabilitation of the missing teeth. It is used very frequently in both the arches and anterior and posterior region. In anterior aesthetic region, implants play a critical role since it does not involve adjacent teeth for their support.¹⁻⁴ Currently, there are different options are available for selecting implant abutment and associates components. Prefabricated and custom made abutments are most frequently used for these purposes in different clinical situations. Custom made abutments are having their own disadvantages however they are not usually indicated in aesthetic concerned areas. Cementation and fixations are other prominent clinical dilemmas seen frequently with custom made implant abutments.⁵⁻⁹ Prefabricated abutments are exhibiting major issue in their adjustability and angulations. Selection of an ideal abutment is one of the prime determining factors for prosthesis success. General awareness and knowledge of implant abutment is deemed necessary for longevity of implant prosthesis. Therefore, it is crucial to conduct a cross sectional survey study to evaluate relative awareness about different implant abutments in anterior aesthetic region.

Materials & Methods

This study was planned and abstracted exclusively to find out various implant abutments being practiced by general dental practitioners of the vicinity. Usually, dental practitioners prefer to install either prefabricated or custom made abutments however both are used based on situational demands. Total forty dentists were selected by random sampling procedures. Both male and female participants were included equally in the study. They were contacted by their official email for responses about implant abutment. All respondents were given the time limit of one month to submit their responses by email only. Questions concerning about implant abutment were framed and given to dentists for

their opinions. Total five questions were set and evaluated logically. In the conduct of this survey, the guidelines of ethical consideration were strictly adhered to and participants filled out the questionnaire after signing informed consent. The inclusion criteria were: respondents who gave their written consent to participate in the study and who were between 25 and 45 yrs of age. Exclusion criteria were subjects who refused to give informed consent. All rights of participants were kept confidential. All data was recorded and entered into excel spread datasheet for further analysis. Data was sent for statistical analysis using SPSS software. P value less than 0.05 was kept as significant.

Statistical Analysis and Results

All relevant data was identified and entered into master spread sheet for analysis by SPSS software. Proper tests were then utilized to test significant implications. Table 1 & Graph 1 demonstrate about age & gender based allocation of all participating dentists. Total 40 dentists were grouped into 27 male and 13 females in the age range of 25 to 45 years. In 25-29 years, total 6 patients were seen. P value was highly significant for this age group (0.02). Table 2 shows about the Level of awareness about dental implant abutment selection as an option in replacing missing anterior teeth. P value was highly significant in response to the question 'Awareness of dental implant abutment retention systems and costs'. Similarly, the P value was highly significant in response to the question 'Familiarity with custom made implant abutments'. Likewise, the P value was not significant in response to the questions 'Awareness of indications and pros & cons of dental implant abutment' & 'Knowledge of materials of implant abutments'. Table 3 shows about sstatistical details of dental implant abutment selection as an option in replacing missing anterior teeth.

Table 1: Age & gender based statistical description of contributing practitioners

Age Group (Yrs)	Male	Female	Total	P value
25-29	5	1	6	0.02*
30-35	7	5	12	0.18
36-40	8	3	11	0.70
41-45	7	4	11	0.90



Total	27	13	40	*Significant
*p<0.05 significant				

Table 2: Level of awareness about dental implant abutment selection as an option in replacing missing anterior teeth

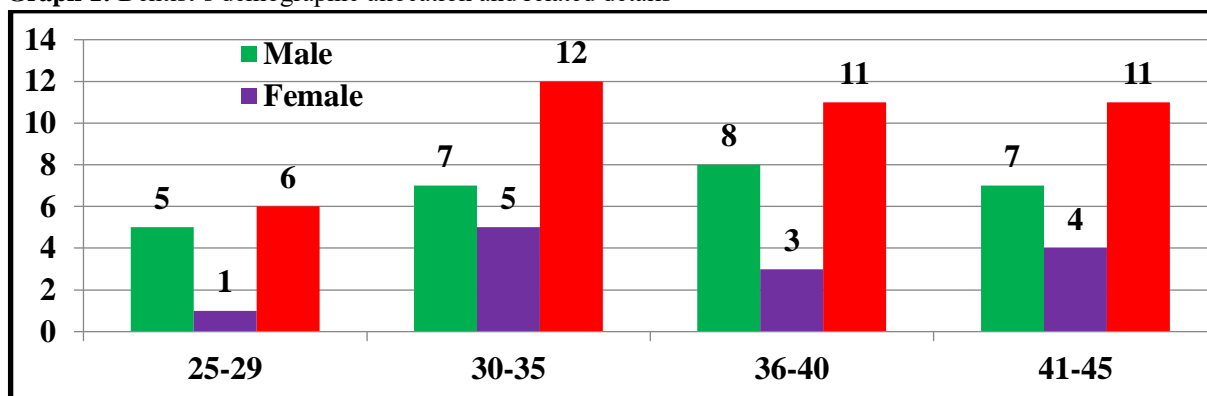
Question	Options	Frequency	Std Deviation	Chi-Square	P Value
Awareness of indications and pros & cons of dental implant abutment	Yes	19	1.9	0.870	0.30
	No	21	1.0		
Awareness of dental implant abutment retention systems and costs	Yes	18	2.1	2.851	0.01*
	No	22	1.9		
Knowledge of materials of implant abutments	Yes	15	2.7	1.067	0.09
	No	25	1.3		
Familiarity with custom made implant abutments	Yes	27	3.3	1.523	0.02*
	No	13	2.7		
Familiarity with pre-fabricated implant abutments	Yes	26	1.1	0.683	0.18
	No	14	2.9		

*Statistically Significant

Table 3: Statistical details of dental implant abutment selection as an option in replacing missing anterior teeth

Question	Options	Std. Error	95% CI	Mean	df
Awareness of indications and pros & cons of dental implant abutment	Yes	0.493	1.12	2.09	2.0
	No	0.142	1.44	1.83	1.0
Awareness of dental implant abutment retention systems and costs	Yes	0.102	1.23	2.10	2.0
	No	0.933	1.12		
Knowledge of materials of implant abutments	Yes	0.122	1.44	1.06	1.0
	No	0.112	1.23		1.0
Familiarity with custom made implant abutments	Yes	0.473	1.12	1.50	2.0
	No	0.467	1.32		2.0
Familiarity with pre-fabricated implant abutments	Yes	0.103	1.64	0.23	1.0
	No	0.142	1.03		

Graph 1: Dentist’s demographic allocation and related details



Discussion



Dental implants are extensively used as a prosthetic treatment of completely or partially edentulous arches. Dental implant augments denture retention, stability, prosthesis acceptance, aesthetics and patient psychological confidence.¹⁰⁻¹⁴ However, little information is available to the dental practitioner about the materials of implant abutment. Many of the prominent researchers in the literature has discussed about indications/contraindications, advantages/disadvantages of the abutments. They have shown custom made abutments as more reliable abutment particularly in the posterior heavy load region. Prefabricated abutments are usually indicated in the anterior aesthetic areas since they are fairly acceptable there. Sometimes angulated implant abutments are also advocated in maxillary anterior area. Maximum labial inclination of angulated abutments is up to 20-25 degrees only. These angulations are determined by the clinical and aesthetic demands of the situations.^{2,6,8,15-17} Many of the recent studies also found low level of knowledge on analyzing the patient responses among the targeted population. Therefore, general public must also be well educated on dental implants as treatment option.¹⁸⁻²⁶

Conclusion

Within the limitations of the study authors concluded that dental implant abutment awareness was at fair levels in the studied dental practitioners. Many of the participants have good knowledge of prefabricated and custom made implant abutments. They also possess fair understandings about indications and costing factors of abutments. Additionally, many of the participants were unaware about the material of abutments. Results of this study clearly indicate the present levels of knowledge of dental practitioners about implant abutments. Authors also expect other long term studies to be conducted in order to establish other significant guidelines in these regards.

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