



PATIENT AWARENESS AND ACCEPTANCE OF DENTAL IMPLANTS AS A TREATMENT MODALITY FOR THE REPLACEMENT OF MISSING TEETH.

Prosthodontics

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ABSTRACT

Background: Bangalore is considered economically stable with high literacy rate and also healthcare is well organised even in remote places. Having adequate facility people are still unaware of implant as an option for treatment of missing teeth.

Objective: To assess the sources, level of awareness, and need for information about dental implants among patients attending the OPD section of Rajarajeswari medical and dental college, Bangalore.

Materials and methods: A survey was conducted on 200 patients in the OPD section of Rajarajeswari medical and dental college, Bangalore. A printed questionnaire was used to evaluate the awareness about dental implants.

Result: Out of 200 patients 74% had not heard about the implant as treatment modality. Most of the participants who were aware had higher education level. The dentist was the main sources of information about dental implants (38%), and most of them were found to have interest to know about implants (69%). 51.5% were willing to go under the treatment if needed.

Conclusion: Within the limitations of the study, it can be concluded saying that 74% of the people did not have any information regarding dental implants in spite that 68% had education up to graduation level. The survey also indicates the lack of effort by the dentist and governing bodies regarding taking necessary steps for creating awareness amongst the population.

Abstract word count: 219.

KEYWORDS

Implants treatment, Implant awareness, Missing teeth.

INTRODUCTION:

Dental implant treatment has come into focus, since it provides excellent long term results in rehabilitation of partially or completely edentulous patients.¹ Dental implants were originally used for the treatment of edentulous patients and are associated with improved denture retention, stability, functional efficiency, and quality of life.²⁻⁴ Also, researchers have focused on the degree of patient satisfaction after oral rehabilitation with different types of dental prosthesis. They reported that esthetics, phonetics, and chewing efficiency were excellent with implant supported restoration.^{5,6} Level of awareness about dental implant treatment varied among several studies in different countries.

Reports from Saudi Arabia and India found levels of awareness about dental implant were 66.4% and 38% respectively.^{7,8} 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.⁹⁻¹¹ Although Bangalore is considered economically stable with high literacy rate and also healthcare is well organized with even remote places having adequate healthcare facility, people are still unaware of implant as an option for treatment of missing teeth. It was important for us to realize if the patients have enough information and if what they realize reflects the facts. Hence, we conducted a questionnaire survey with the aim of assessing patient awareness and acceptance of dental implants as a treatment modality for the replacement of missing teeth.

Aims and objectives

1. To evaluate the level of acceptance of dental implants as a treatment option compared to other conventional treatment modalities.
2. To evaluate the sources of information regarding dental implant treatment.
3. To evaluate the level of knowledge amongst the populations with regards to dental implants.

Materials and methods:

A cross sectional survey was conducted in the OPD section of Rajarajeswari medical and dental college, Bangalore. It was conducted

over a period of 2 months during April and May 2017. Before onset of the survey, an ethical permission was taken from the ethical committee of the Institute and a written informed consent was obtained from all the participants.

Survey was done among a sample of 200 patients which were grouped according to gender, age and education and occupation as following:

- A. Sex - Male, Female
 - B. Age-
18 to 30 years,
30 to 40 years,
Above 40 years.
 - C. Education levels- Primary, secondary and graduation Levels.
 - D. Occupation- skilled, unskilled.
- Inclusion and Exclusion Criteria:

All the subjects who were willing to give informed consent and above 18 years of age were included.

Study tool:

15 close ended questions were chosen to assess patient acceptance, awareness and knowledge about dental implants as a treatment modality for replacement of missing teeth. Demographic data, socioeconomic status and level of education were assessed. The questionnaire was prepared bilingually (English and kannada) to correspond with the reading and comprehension levels of patients with different levels of education in which part A had the demographic information and part B were direct questions to know patient attitude and awareness. A random sampling method was taken to give the questionnaire to the study population.

Statistical analysis:

Statistical Software Package SPSS version 22 (IBM SPSS Statistics for Windows, Version 22.0, IBM Corp., released in 2013) was used to perform statistical analyses.

Descriptive Statistics: The frequency description of all study parameters was done using number and percentage for categorical variables, whereas mean & SD for continuous data.

Inferential Statistics:

Independent Student t test was used to compare the mean total scores

between gender and type of occupation One way ANOVA was used to compare the Mean total scores between different age groups and education levels of study participants.

The level of significance [P-Value] was set at $P < 0.05$

QUESTIONNAIRE

SOCIODEMOGRAPHIC DATA

- NAME
- AGE
- SEX
- ADDRESS
- EDUCATION
- OCCUPATION
- INCOME

1)DO YOU THINK MISSING TEETH SHOULD BE REPLACED?

- A.YES, ALWAYS
- B.YES, IF SPACE IS VISIBLE
- C.NO
- D.IDON'T KNOW

2)DO YOU HAVE ANY PROSTHESIS IN YOUR ORAL CAVITY?

- A.YES
- B.NO

3)WHAT ALTERNATIVES DO YOU KNOW FOR REPLACING MISSING TEETH?

- A.REMOVABLE COMPLETE/ PARTIAL PROSTHESIS
- B.FIXED PROSTHESIS
- C.IMPLANT SUPPORTED PROSTHESIS
- D.ALL OF THE ABOVE

4)WHAT AMONGST THE OPTIONS DO YOU THINK ARE BEST FOR REPLACING TEETH?

- A.REMOVABLE PARTIAL/COMPLETE PROSTHESIS
- B.FIXED PROSTHESIS
- C.IMPLANT SUPPORTED PROSTHESIS
- D.IDON'T KNOW

5)DO YOU HAVE ANY INFORMATION REGARDING DENTAL IMPLANTS?

- A.YES
- B.NO
- IF YES WHAT IS THE SOURCE

6)HOW WELL INFORMED YOU FEEL ABOUT IMPLANTS?

- A.VERY WELL
- B.MODERATELY WELL
- C.NO INFORMATION

7)WHAT IS THE SOURCE OF INFORMATION FOR DENTAL IMPLANTS?

- A.DENTIST
- B.FRIENDS/RELATIVES
- C.BOOKS/MAGAZINES/INTERNET
- D.NO INFORMATION

8)WHAT DO YOU THINK IS THE BIGGEST ADVANTAGE OF IMPLANT SUPPORTED PROSTHESIS?

- A.FIXED REPLACEMENT WHEN ADJACENT TEETH ARE NOT HARMED
- B.BETTER ESTHETICS
- C.BETTER FUNCTION
- D.IDON'T KNOW

9)WHAT DO YOU THINK IS THE BIGGEST DISADVANTAGE OR REASON FOR REFUSAL OF IMPLANT SUPPORTED PROSTHESIS?

- A.HIGH COST
- B.NEED FOR SURGERY
- C.LONG TREATMENT TIME
- D.IDON'T KNOW

10)WHAT FACTOR DO YOU THINK MAKES IMPLANT A COMPARITIVELY EXPENSIVE OPTION FOR TOOTH REPLACEMENT?

- A.HIGH COST OF IMPLANT
- B.HIGH COST OF SURGICAL PROCEDURE
- C.REQUIREMENT OF QUALIFIED SPECIALIST
- D.IDON'T KNOW

11)WHO IN YOUR OPINION SHOULD OPT FOR DENTAL IMPLANTS?

- A.IMPLANTS ARE GOOD FOR EVERYONE
- B.IMPLANTS ARE GOOD ONLY FOR THE RICH
- C.IMPLANTS ARE THE LAST OPTION WHEN FIXED PROSTHESIS CANNOT BE GIVEN
- D.IDON'T KNOW

12)WHAT DO YOU THINK ARE THE COMPLICATIONS OF IMPLANT PROSTHESIS?

- A.PAIN FROM SURGERY/ INFECTION
- B.FAILIURE OF TREATMENT
- C.NO COMPLICATIONS
- D.IDON'T KNOW

13)DO YOU THINK DENTAL IMPLANTS NEED SPECIAL CARE AND MAINTAINANCE?

- A.NO,SELF CARE IS ENOUGH
- B.BOTH SELF/PROFFESIONAL CARE
- C.DON'T KNOW

14)WOULD YOU LIKE TO KNOW MORE ABOUT DENTAL IMPLANTS?

- A.YES
- B.NO

15)ARE YOU WILLING TO OPT FOR DENTAL IMPLANTS IF NEEDED?

- A.YES
- B.NO
- C.DON'T KNOW

RESULTS:

A total of 200 people voluntarily agreed to participate in the study. Table 1 shows the demographic data of the study participants.

Table 1 : Distribution of socio-demographic characteristics among study participants

Distribution of socio-demographic characteristics among study participants			
Variables	Categories	n	%
Age_Grp	18-30 yrs	87	43.5%
	31-40 yrs	45	22.5%
	> 40 yrs	68	34.0%
Sex	Males	114	57.0%
	Females	86	43.0%
Education	No formal education	11	5.5%
	Primary Level	12	6.0%
	Secondary Level	41	20.5%
	Graduation Level	136	68.0%
Occupation	Unskilled	92	46.0%
	Skilled	108	54.0%

Assessing the level of knowledge using questionnaire data the following responses were obtained which is summarized in table 2, 3 & 4.

Table 2: Frequency distribution of responses for Q1 - Q5 by study participants

Frequency distribution of responses for Q1 - Q5 by study participants			
Questions	Responses	n	%
Q1	Yes, Always	73	36.5%
	Yes, if Space Avl.	86	43.0%
	No	27	13.5%
	I Don't Know	14	7.0%
Q2	Yes	44	22.0%
	No	156	78.0%

Q3	RPD/CD	45	22.5%
	FPD	53	26.5%
	ISP	15	7.5%
	All of the Above	87	43.5%
Q4	RPD/CD	36	18.0%
	FPD	72	36.0%
	ISP	38	19.0%
	I Don't Know	54	27.0%
Q5	Yes	52	26.0%
	No	148	74.0%

Table 3: Frequency distribution of responses for Q6 - Q10 by study participants

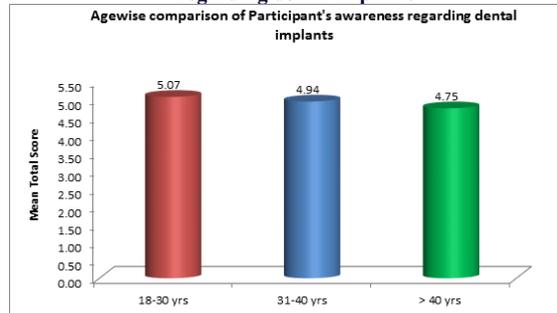
Frequency distribution of responses for Q6 - Q10 by study participants			
Questions	Responses	n	%
Q6	Very well informed	22	11.0%
	Mod. Informed	77	38.5%
	No information	101	50.5%
Q7	Dentists	76	38.0%
	Friends/Relatives	55	27.5%
	Books/Magazines/Internet	29	14.5%
	No Information	40	20.0%
Q8	Adj. teeth not harmed	62	31.0%
	Better esthetics	23	11.5%
	Better Function	32	16.0%
	Don't know	83	41.5%
Q9	High Cost	62	31.0%
	Need for Surgery	44	22.0%
	Longer Rx time	18	9.0%
	Don't Know	76	38.0%
Q10	High cost of Implant	48	24.0%
	High cost of surgery	36	18.0%
	Needs Qual. Specialist	35	17.5%
	Don't know	81	40.5%

Table 4: Frequency distribution of responses for Q11 - Q15 by study participants

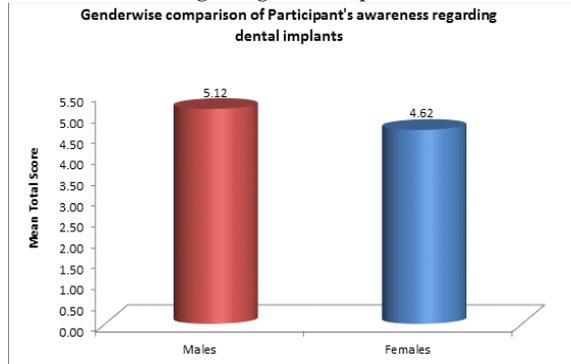
Frequency distribution of responses for Q11 - Q15 by study participants			
Questions	Responses	n	%
Q11	Implants - good for all	87	43.5%
	Implants - good for rich	17	8.5%
	When FPD is not feasible	41	20.5%
	Don't Know	55	27.5%
Q12	Pain/Inf. from surgery	55	27.5%
	Failure of Rx	29	14.5%
	No complications	42	21.0%
	Don't Know	74	37.0%
Q13	Self care	49	24.5%
	Self + Prof. Care	99	49.5%
	Don't know	52	26.0%
Q14	Yes	138	69.0%
	No	62	31.0%
Q15	Yes	103	51.5%
	No	51	25.5%
	Don't Know	46	23.0%

In response to knowledge and awareness of dental implants as a treatment modality towards replacement of missing teeth 49.5% of the participants reported that they were well to moderately well informed about dental implants. Assessing the level of awareness among the study participants based on their gender, age, education and occupations following results were obtained. The results are represented in the following graphs 1,2,3 & 4.

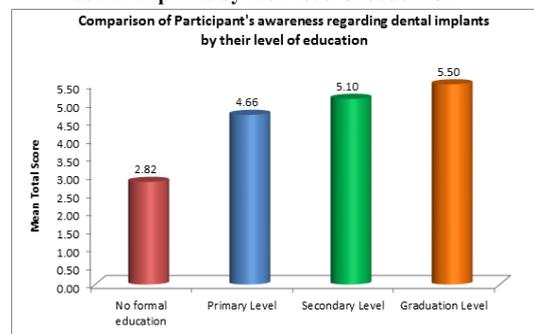
GRAPH 1: Agewise comparison of Participant's awareness regarding dental implants



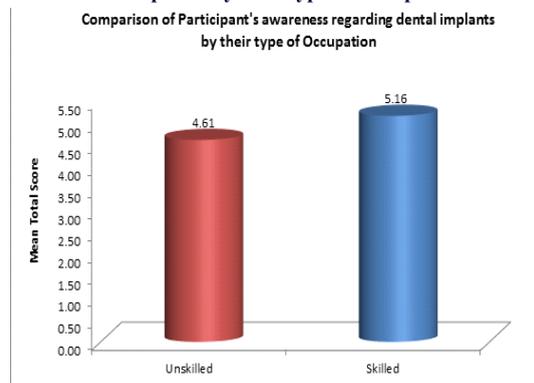
GRAPH 2: Genderwise comparison of Participant's awareness regarding dental implants



GRAPH 3: Comparison of Participant's awareness regarding dental implants by their level of education



GRAPH 4: Comparison of Participant's awareness regarding dental implants by their type of Occupation



Discussion:

The present survey gives the information about patient knowledge, awareness and acceptance of dental implants as a treatment modality for the replacement of missing teeth. Our study showed that awareness of replacing missing teeth was 36.5 while 43.5% said it need to be replaced only if space is available. This is in accordance to a study done by Venkatesan et al who said 38% being aware that missing teeth have to be replaced always while 36% said it need to be replaced only if esthetically unpleasant as shown in table 5.

Furthermore, the option of fixed partial denture was the most recognized by the patients. This is in accordance with the study done on awareness of patients about implant and willingness for implant as shown in table 5.

This study showed that most patients learned about dental implants from their dentists followed by friends or relatives while print and electronic media was the source for only 14.5% as shown in table 6. This is also in accordance with the study done by Sunitha Mathuriya and Surendra Agarwal where dentists were the major source of information.(73.01%). 1

In this study about 43.5% people stated that they were aware of all the options given for replacement of missing teeth. But in the same questionnaire 74% said that they did not have any information regarding the dental implants which is in contradictory to the results obtained for this question in the same survey as shown in table 5.

In this study 74% of patients had no information regarding dental implants. As the majority of patients have not heard about dental implants they were unsure about the advantages, disadvantages and complications of dental implants as shown in table 5, 6 & 7. This is in accordance to satpathy et al 13 but contradictory to a study done by Venkatesan et al. 11

In this study 38% were not sure about the reason for not opting implants, whereas 31% thought that the biggest disadvantage was the high cost of the implant. This in accordance to Satpathy et al who conducted a study on patient awareness, acceptance and perceived cost of dental implants as a treatment modality for replacement of missing teeth: A survey in Bhubaneswar and cuttack. 13

Around 43.5% questioned in the survey agreed that implants were good for all.

51% were willing to undergo implant treatment and 69% wanted to know more about dental implants as shown in table 7. The results were similar to the findings of Sandeep Kumar and Astha Chauhan wherein their study found that 85% wanted to know more about implants. 14

The number of dental implants inserted annually worldwide has been estimated to be close to 1 million. However level of information available to patients about realistic, evidence based treatment options with implants is often only fragmentary, and what is disseminated by the media and industry does not always reflect evidence based data. 15

TABLE 5: Frequency distribution of responses for Q1 - Q5 by study participants

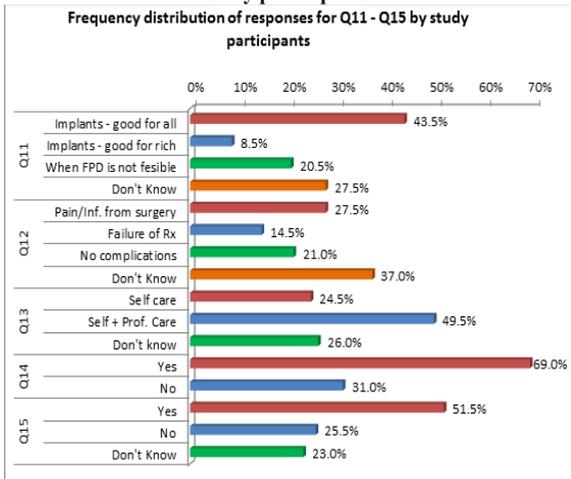


TABLE 6: Frequency distribution of responses for Q6 - Q10 by study participants

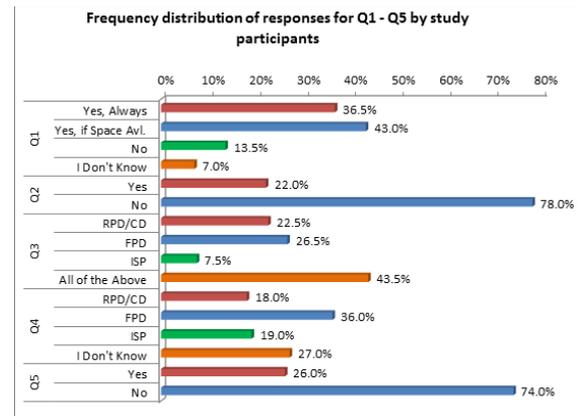
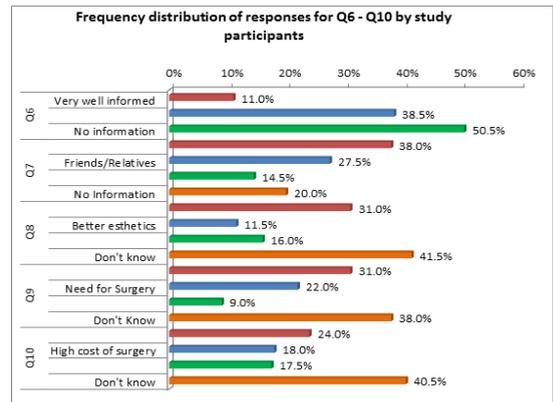


TABLE 7: Frequency distribution of responses for Q11 - Q15 by study participants



CONCLUSION:

Within the limitations of the study, it can be concluded saying that 74% of the people did not have any information regarding dental implants in spite that 68% had education up to graduation level.

The survey also indicates the lack of effort by the dentist and governing bodies regarding taking necessary steps for creating awareness amongst the population.

This survey underlines the need for providing correct information through various means to the patients to improve awareness about this treatment modality.

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