

KNOWLEDGE, ATTITUDE AND PERCEPTION AMONG POPULATION OF RANCHI FOR REPLACEMENT OF MISSING TOOTH WITH DENTAL IMPLANT : A CROSS SECTIONAL STUDY

ABSTRACT

Introduction: Dental Implant is a successful treatment modality for replacing single tooth or multiple teeth. It also prevent the natural teeth contrary to fixed partial denture therapy. Comfort level is high in implant and also gives better aesthetic results. Despite its advantages it is not a very common treatment modality. So this study was conducted to evaluate the awareness among population of Ranchi for dental implants.

Aims: The aim of the study was to assess the awareness of the patients regarding implant-retained prosthesis as an option for tooth replacement and the knowledge about tooth replacement as a whole including source of information and attitude towards it amongst Ranchi population.

Materials and Methods: A survey was conducted printed questionnaire with multiple questions to evaluate awareness of dental implant therapy among population of Ranchi in 2016 (Jan to March). A random sampling method with convenient sample size was used. Questionnaire was prepared both in English and Hindi to facilitate completion and to get better understanding of the questions by the respondents. The questionnaire was handed to the head of hospital and dental clinics based in Ranchi and the response was recorded from the regular visitor having dental problems.

Results: Amongst the 1352 response retrieved, 27% of respondents felt moderately well informed about the dental implant treatment. Only 9% of the respondents had dental implant treatment before and 17% felt well informed about different alternatives of replacing missing teeth. The dentists were the main source of information regarding dental implant treatment modality followed by friends and electronic media. 55.6% respondents felt implant to be as good as own teeth during function whereas high cost was the major limiting factor for implant treatment.

Conclusion: Awareness about the implant treatment option available as mode of replacement of missing teeth is low. Extensive awareness programme is needed to be done to increase the awareness among people. Dentists share the most important part in making peoples aware about implants.

Keywords: Dental Implants, Prosthodontics, Awareness

Author:

Dr. Manish Goutam¹
Dr. Madhvi Singh²
Dr. Ashesh Gautam³
Dr. Trilok Sahu⁴

Tutor

Dept. of Prosthodontics,
Dental Institute,
Rajendra Institute of Medical Sciences
Ranchi, Jharkhand

Reader

Dept. of Periodontics
Awadh Dental College & Hospital
Jamshedpur, Jharkhand

Dept. of Pedodontics

Awadh Dental College & Hospital
Jamshedpur, Jharkhand

Dept. of Dentistry

Chhindwara Medical College
Madhya Pradesh

Corresponding Author:

Dr. Madhvi Singh
Reader, Dept. of Periodontics
Awadh Dental College & Hospital
Jamshedpur, Jharkhand.
Email: drmadhvisinghperio@gmail.com

J Ind Dent Assoc Kochi 2022;4(1):52-8.

INTRODUCTION

Dental Implant is a successful treatment modality for replacing single tooth or multiple teeth. It also prevent the natural teeth contrary to fixed partial denture therapy. Comfort level is high in implant and also gives better aesthetic results. Although it is not very common treatment plan as compared to fixed partial denture or removable dentures because of lack awareness among patients and its high cost. Pommer et al. reported 79% of the Austrian populations choose implant therapy as the treatment of choice¹. In 1999, a survey from Sweden reported a rise in desire for implant treatment to 95% over a period of 10 years.²⁻⁴ Chawdhary et al. reported that the level of awareness of implant treatment was 23.24% in 2010.⁵ Zimmer et al. in 1992 found higher interest and general awareness for implant therapy.⁶

Material and Methods

A survey was conducted printed questionnaire with multiple questions to evaluate awareness of dental implant therapy among population of Ranchi in 2017 (Jan to March). A random sampling method with convenient sample size was used. Questionnaire was prepared both in English and Hindi to facilitate completion and to get better understanding of the questions by the respondents. The questionnaire was handed to the head of hospital and dental clinics based in Ranchi and the response was recorded from the regular visitor having dental problems.

Aims and objectives of the study were clearly stated to all the respondents. Response was recorded only from those who agreed to give informed consent. So out of 2000, only 1352 respondents agreed to participate in the survey with the non-responsive rate 32.46%.

Respondents were divided into groups according to age and level of education.

Age: (a) 16 20 yrs, (b) 21 40 yrs, (c) 41 60 yrs, (d) 61 80 yrs, (e) 81 yrs and above

Education: (a) Up to high school, (b) Up to college, (c) Up to university and above.

The survey form included self explanatory questions which were in correspondence to previous studies conducted Chowdhary et al.,⁵ and Berge et al.⁷

Results

87% respondents had no previous experience of dental implant whereas 9% had undergone implant treatment before [Table 1]. 21 to 40 age group was having highest awareness for dental implants. When asked about the alternatives for replacing missing teeth, 17% were well informed, 41% moderately informed, 36% poorly informed, out of 1352 respondents.

Awareness for complete denture was highest 59%, slightly less awareness for implant supported dentures (56%). 55% and 43% respondent were aware for Partial denture and Fixed bridge respectively. There were 148 respondent who did not have any information for any kind of alternative treatment available [Table 2]. Only 8% of respondents felt very well informed about dental implant, 14% well informed, 27% moderately well informed and 47% poorly informed [Table 3]. Questions on source of information regarding different alternatives for replacement of missing teeth was to all respondents in which 47% respondents were moderately aware where as 48% peoples were having poor awareness. Dentists were the major source of information for 53.6% followed by relatives & friends (45.3%). Some respondents (34.6%) stated the role of internet and similar percentage (33.5%) gave reference to someone who has undergone implant treatment [Table 4]. 69.9% respondents agreed to get more information for dental implants whereas 30 percent respondent disagreed. Most of the respondents (72.16) agreed that they want to get more information regarding dental implants from dentists [Table 5].

when asked about non-removable in comparison to removable 51.4% agreed that it is more comfortable, 47.8 % suggested it gives better appearance and 55.6 % told it to be as good as own teeth during function [Table 5].

When asked about the disadvantage of implant

Table 1: Have you had dental implant treatment before		
	N	Percentage
YES	121	9
NO	1176	87
NO ANSWER	55	4

Table 2: Questions on alternatives for replacing missing teeth		
	N	Percentage
How well do you subjectively feel informed about alternatives of replacing teeth		
Very well	67	5
Well	229	17
Moderately well	554	41
Poor	486	36
No Answer	16	1
Alternatives for replacing missing teeth		
Implant supported dentures/bridge	757	56
Partial dentures	743	55
Complete dentures	797	59
Bridges (fixed partial dentures)	581	43
None of the above	148	11
People may select more than one option, so numbers may add up to more than 1013		

Table 3: How well do you subjectively feel informed about dental implant?		
	N	Percentage
Very well	108	8
Well	189	14
Moderately Well	365	27
Poor	635	47
No Answer	55	4

Table 4: Questions on source of information regarding different alternatives for replacement of missing teeth		
	N	Percentage
How well do you subjectively feel informed regarding source of information about different alternatives for replacement of missing teeth		
Very well	36	2.7
Well	27	20.5
Moderately well	635	47
Poor	648	48
No answer	2028	1.5
Source of information regarding dental implants		
Television/radio	128	9.5
Internet	467	34.6
Dentist	724	53.6
Relatives/friends	612	45.3
Someone who received implant	452	33.5
People may select more than one option, so numbers may add up to more than 1352.		

Table 5: Questions on expectations about the source of information		
	N	Percentage
Would you like to get more information regarding dental implants		
YES	945	69.9
NO	407	30.0
From where would you like to get information about dental implants		
Television/radio	92	6.81
Internet	223	16.5
Dentist	975	72.16
Relatives/friends	40	2.96
Someone who received implant	23	1.77

Table 6: Questions on advantages and disadvantages of different prosthesis		
	N	Percentage
What do you think are the advantages of Non-removable versus removable dentures?		
More comfortable in the mouth	694	51.4
Better appearance	646	47.8
As good as own teeth during function	751	55.6
What do you think are the disadvantages of implant supported dentures/bridges?		
High costs	1084	80.2
Lack of knowledge	446	33.0
Need of surgery	512	37.9
Long treatment time	557	41.2
People may select more than one option, so percentages may add up to more than 100%		

treatment; high cost was most raised concern as 80.2% of respondent. Lack of knowledge, need of surgery and the duration of treatment were other concern and reason to refuse treatment related to implant [Table 6].

Discussion

In the present study 21 to 40 age group respondents were well informed for dental implants which is similar to finding of Chowdhary et al⁵, in which 25 to 44 age group were more aware of dental implants in India. Whereas, in a study conducted by Berge et al.⁷ in Norway, they found people of age of 45 and above with high level of education were well informed for dental implants. Awareness about the treatment options available for replacing missing teeth, 56% respondents were informed about dental implants. This result is significantly different from the results reported by Zimmer et al.⁶ and Berge et al.⁷ which reported high level of awareness as 77% and 70.1% respectively.

Dentists are the primary source of information as well as the choice of source for information regarding dental implants among most of the respondents which increases the responsibility on Dentists. This result is in agreement with

Pommer et al.,¹ Chowdhary et al.,⁵ Satpathy et al.,⁸ Mukatash et al.,⁹ and Ravi Kumar et al.,¹⁰ all of which stated dentists as the main source of information. This finding is contrary to that reported by a study done in the USA, stating media as the main source.^{7,11} Relatives and Friends as well as the treated people are other source through which people are acquainted about implant therapy. Apart from these conventional sources Internet is the new emerging source which is stated by 34.6% of the of the respondents. The role of social Media is crucial among the internet users and that is also a platform where awareness should be increased. The difference between Non-removable and Removable prosthesis is well appreciated by most of the respondents as 51.4% agreed that it is more comfortable, 47.8% of respondents also recommended non removable as better in aesthetics compared to removable.

High cost was the major concern to 80.2% of respondent and stated as its disadvantage.^{6,12} Recent studies^{13,14,15} found lack of knowledge, need of surgery and the duration of treatment were other concern and reason to refuse treatment related to implant. These results were consistent with the studies which reported the similar results.

CONCLUSION

The Study conducted clearly show that awareness about the dental implant treatment is not optimum among the population of Ranchi. It is high time when Implant treatment should be approachable to every people whenever it is needed. Dentists hold a major share of responsibility for increasing awareness among patient and inform them the option of implants. The cost factor is another hurdle in becoming this treatment therapy a common therapy. It is restricted only to affordable class of people because of its higher price. Extensive work should be done to lower the price of dental implant therapy with initiative from governing bodies. Dentist should also go through extensive study and research to increase the success rate of the treatment. General Practitioners are needed to be more informed and get thorough knowledge about the implant procedures through continuing dental educations. The advantages of implant therapy should be emphasized to the patient and long term benefits should be illustrated. Social media may also play a vital role to make aware people about implant therapy through visuals and animations.

REFERENCES

1. Pommer B, Zechner W, Watzak G, Ulm C, Watzek G, Tepper G. Progress and trends in patients' mindset on dental implants. I:Level of information, sources of information and need for patient information. Clin Oral Impl Res 2011;22:223-9.
2. Narby B, Bagewitz IC, Soderfeldt B. Factors Explaining Desirefor Dental Implant Therapy: Analysis of the Results from a Longitudinal Study. Int J Prosthodont 2011;24:437-44.
3. Narby B, Kronstrom M, Soderfelt B, Palmqvist S. Changes in attitudes toward desire for implant treatment: A longitudinal study of a middle-aged and older Sweden population. Int J Prosthodont 2008;21:481-5.
4. Brunski JB. In vivo bone response to biomechanical loading at the bone/dental implant interface. Adv Dent Res 1999;13:99-119.
5. Chowdhary R, Mankani N, Chandraker NK. Awareness of Dental Implants as a Treatment Choice in Urban Indian Populations. Int J Oral Maxillofac Implants 2010;25:305-8.
6. Zimmer CM, Zimmer WM, Williams J, Liesener J. Public awareness and acceptance of dental implants. Int J Oral Maxillofac Implants 1992;7:228-32.
7. Berge TI. Public awareness, information source and evaluation of oral implant treatment in Norway. Clin Oral Implants Res 2000;11:401-7.
8. 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 inBhubaneshwar and Cuttack. Int J Public Health Dent 2011;2:1-7.
9. Mukatash GN, Al-Rousan M, Al-Sakarna B. Needs and demands of prosthetic treatment among two groups of individuals. Indian J Dent Res 2010;21:564-7.
10. Kumar RC, Pratap KV, Venkateswararao G. Dental implants as an option in replacing missing teeth: A patient awareness survey in Khamman, Andhra Pradesh. Indian J Dent Sci 2011;3:33.
11. Watzek G, Buser D, Neukmamm F. Eröffnungsanspracher der Gemeinschaftstagung der Deutschen Gesellschaft for implantologie im Zahn-, Mund-und Kieferbereich, der Osterreichischen Gesellcheft fur orale Chirurgie und Implantogie und der Schweizerischen Gesellschaft fur orale Implantologie,Risiken in der Implantologie Salzburg, 30 Nov-2 Dec 2000. Clin Oral Implants Res 2003;14:621-33.
12. Akagawa Y, Rachi Y, Matsumoto T, Tsuru H. Attitudes of removable denture patients

towards dental implants. *J Prosthet Dent* 1988;60:362-4.

13. Salim, N.A., Meyad, F.H., Al-Abdallah, M.M. et al. Knowledge and awareness of dental implants among Syrian refugees: a cross sectional study in Zaatari camp. *BMC Oral Health* 21, 442 (2021).
<https://doi.org/10.1186/s12903-021-01806-7>
14. Prasad DK, Dogra ES, Prasad DA, et al. Awareness and knowledge of dental implants as a treatment to replace missing teeth amongst paramedical and allied health sciences students. *J Evolution Med Dent Sci* 2021;10(03):123-126, DOI: 10.14260/jemds/2021/26
15. Mohammed Siraj UR Rehman. Awareness and knowledge of dental implants as an option for replacing missing teeth: a survey in Hyderabad, India. *International Journal of Contemporary Medical Research* 2019;6(5):E1-E3.