



Knowledge, Awareness, & Attitude towards Implant Therapy for Replacing Missing Teeth: A Cross Sectional Survey from Northern West Bengal, India

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

Aims: The purpose is to assess the awareness, knowledge & attitude towards implant therapy for replacing missing teeth.

Material & Methods: This cross-sectional study was conducted in Department of Dentistry of Malda Medical College & Hospital, Malda, West Bengal, over a period of July 2019 to July 2021. A total of 1200 partial or complete edentulous patient, age above 15 years were selected. A standardized 9 close ended questions were asked to patients. The data were collected in tabular form and statistically analyzed by Chi-Square test.

Results: We found that 22.83% (274) were aware about dental implant therapy, among them male were 13%(156) and female were 9.83%(118). The difference between male and female awareness

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were statistically highly significant ($p < .001$). The major source of information regarding implant was dentist (55.83%). Only 8.08% (97) were interested in implant therapy in near future, among them 5.08%(61) male and 3%(36) were female. The difference were statistically non significant ($p = 0.62$). Major reason for not opting implant therapy was high cost (32.76%).

Conclusion: Within limitation of the study we concluded very less awareness (22.83%) regarding implant therapy among the Malda Population. So there is need for bringing more awareness program brought by various Government & Public organization to educate the general population

Keywords: Dental implant; missing teeth; awareness; dentist.

1. INTRODUCTION

Condition of oral cavity is very important for social and psychological well being of the patient [1]. Teeth have an important role in maintaining well being in oral cavity. Individuals who are above 18 years of age, 35% of them have tooth loss in Indian population [2]. Edentulism directly lead to impairment, functional limitation, physical, psychological, and social disability, and may result a handicapped person [3]. Although missing teeth can be replaced by removable and fixed prosthesis [4]. Now a days, implant supported fixed restoration can be considered best treatment. It preserves remaining surrounding bone around the edentulous area, restores masticatory function, speech and esthetics, thus improves the quality of life.

Most of the studies were done in various part of World as well as in India regarding awareness of implant therapy with poor to good result. Thus we conducted study to assess the awareness, knowledge and attitude towards implant therapy for rehabilitating edentulism at Malda district.

2. MATERIALS AND METHODS

This cross-sectional study was conducted in Department of Dentistry of Malda Medical College & Hospital, Malda, West Bengal, over a period of 2 year (July 2019 to July 2021). Our chief objective to determine the awareness toward dental implants among patients. The other objectives were to determine knowledge and attitude among patients about dental implants. A total of 1200 patient, aged above 15 years were asked using 9 standard modified close ended questionnaire [1,4]. They were further subdivided into 15-29 years, 30-54 years, 55 years and above. Inclusion criteria were one or more missing teeth except 3rd molar. The exclusion criteria were as follows: •Fully dentate patient. •Patients who had already received dental implants • Patients with have professional dental knowledge • Patients not eager to participate in the study.

The data were entered into Microsoft Excel and analyzed using SPSS 11.5 version (Chicago: SPSS Inc.)

3. RESULTS AND DISCUSSION

Result showed (Graph: 1) that our participant were male 619(51.58%) and female were 581(48.41%). The majority of participant (Graph: 2) were in 30-54 year age group i.e. 691(57.58%). The level of education (Table: 1) showed majority of our participant were educated upto secondary i.e. 437(36.41%). Occupational study (Table: 2) also showed that our majority participant were farmers 294(24.5%).

When participant were asked that did they heard about dental implant (Graph: 3) only 274(22.83%) were aware, among them male were 156(13%) and female were 118(9.83%) (Graph: 4). Non parametric Chi-Square were performed, result showed that the difference between male and female groups were statistically highly significant $p < 0.001$ (Table: 3).

Study also showed (Table:4) that dentist were the major source of information (55.83%) regarding implant therapy.

In this present study willingness was assessed, only 97(8.08%) willing to do implant therapy in near future, among them male 61(5.08%) and female 36(3%) { participant who were aware about implant.}. The difference (Table: 5) were not statistically significant ($p > .05$).

Result also showed, the major reason for not opting dental implant therapy (Table:6) were high cost (32.76%).

Dental implant has been extensively used for reconstruction of partial and complete edentulism to maintain or restore form, function and esthetics and to optimize the longevity of restored or remaining dentition. Implant studies frequently reported outcome rates exceeding 95%. Meta-analyses found success rates of

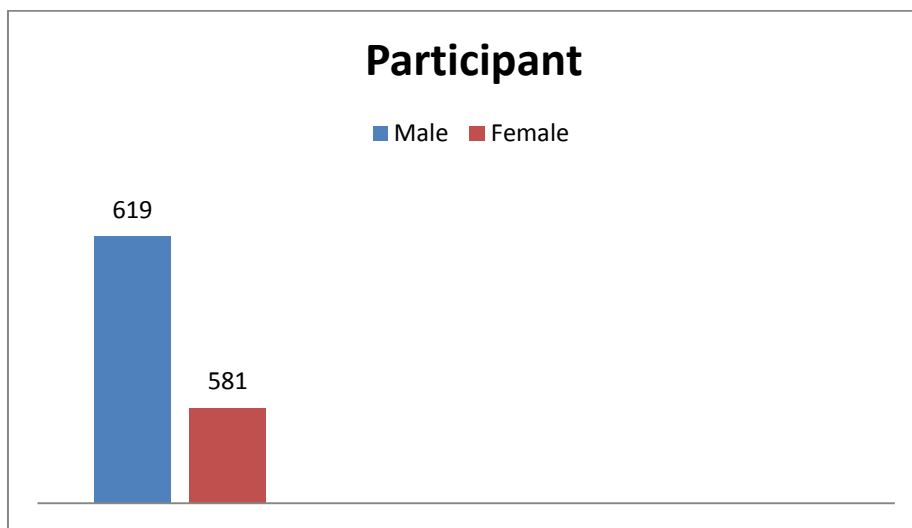
96.7% to 97.5% for single-unit restorations and 92.5% to 93.6% for fixed partial restorations over 6 to 7 years [5]. High success rate of implant lead to widely accepted as a prosthetic treatment option compared to conventional methods [6]. Thus it is important to assess knowledge, awareness and attitude of dental implant therapy among the patient resides in Malda district in West Bengal.

In our study result showed that 22.83% (among 1200 patient only 274 patient) heard about dental implant as a prosthetic therapy. This low awareness is similar to study done by Chowdhary R et al. [6], AnoopMayya et al. [1], Satpathy et al. [7] 23.24%, 17.8%,16% respectively. The result of our study nearer to the study done by B Suprakash et al. [8] (33.3%), Santosh et al. [9] (42%), CeydaÖzçakırTomruk et al. [10] (43.5%).Present study were significantly different from the results reported by, Berge et al. [11] (70.1%) , Tepper et al. [12] (72%),Zimmer et al. [13] (77%) which reported high level of awareness. It could be due to low level of education & socioeconomic status in the study sample as most of the people belong to rural community.

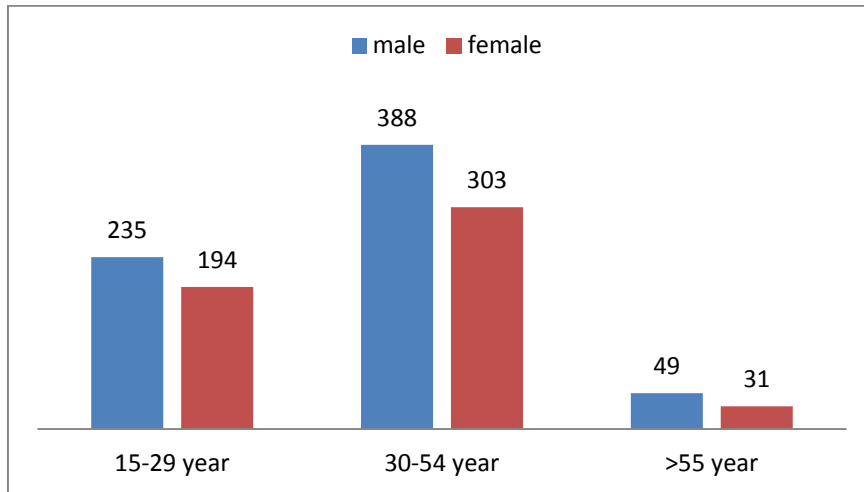
In this present study male patients were more aware than female which was statistically significant ($p=0.001$) ,which is similar to study done by Sultan Ali Alanazi et al. [14],Kawamura et al. [15] and Polychoronopoulou et al. [16]. This may be due to education level. But Al Hashim H et al. [17] found that female were more knowledgeable than male.

In this present study the willingness among the male patient is more than female patient which was statistically non significant ($p=0.62$). Present study showed that major source of information about dental implant therapy was dentist (55.83%) which was similar to the findings of Al Johany et al. [18] and Chowdhary R et al. [6], Esfahani and Moosaali [19], Tomruk et al. [10], Kohli et al. [20], This clearly indicates the lack of efforts by dentists and the governing bodies regarding taking necessary steps for creating awareness amongst the people. However, studies conducted by Zimmer et al. [13], Berge et al. [11] and Best [21], Akagawa et al. [22] also found that, the media was the main source of information; while dentists played a secondary role .Awooda et al. [23], Al-johany et al. [18], Suwal et al. [24], Anoop Mayya et al. [1], AbdulrahmanAlajilan et al. [25] showed that friends and relatives were the main source of information.

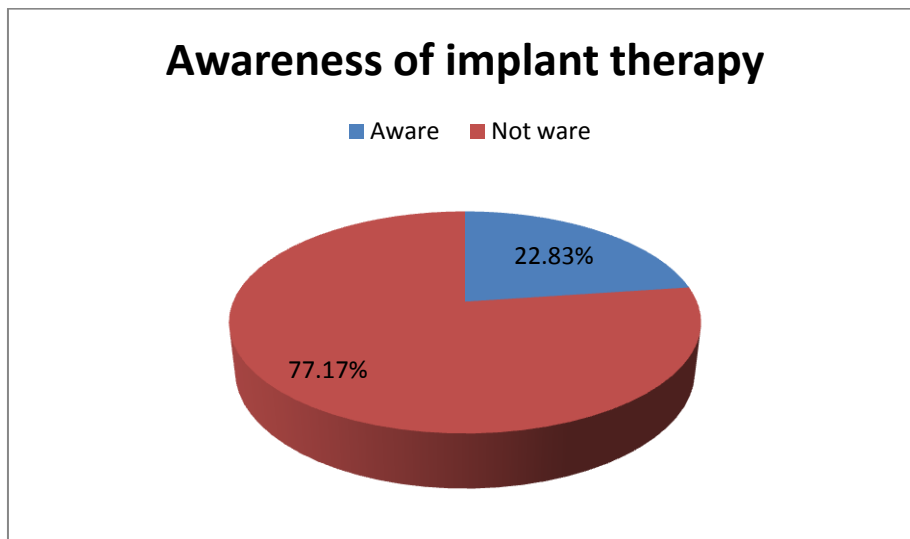
In this present study willingness for opting dental implant therapy was only 35.4% of who were aware about dental implant therapy in near future. The difference between male and female regarding willingness for implant therapy were statistically non significant($p>0.05$).The reason were assessed for not willing to do implant therapy, the main reason were cost (32.76%).This result was similar to study conducted by Zimmer et al. [13], Akagawa et al. [22]. It was observed that 21.46% patient were not willing dental implant therapy due to dentist did not suggest as treatment modality .Which is similar to study conducted by Aartiganesh Prabhu et al. [26].



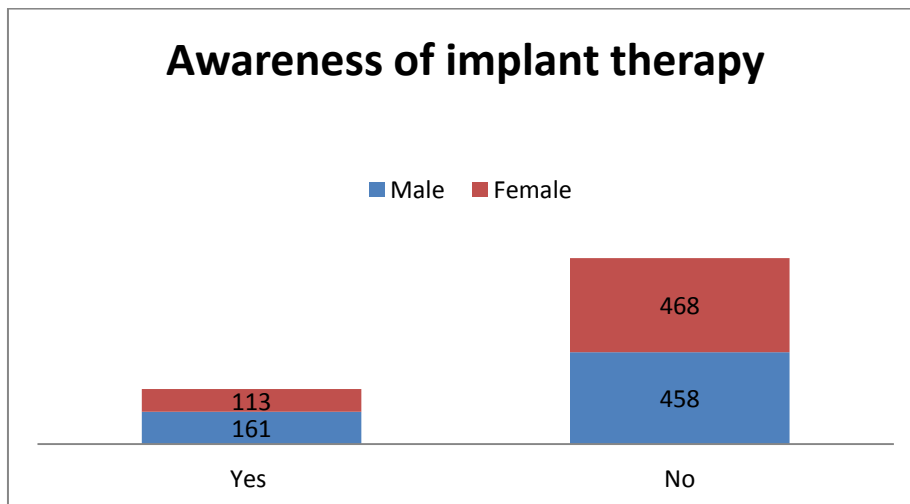
Graph 1. Showing number of male and female participant



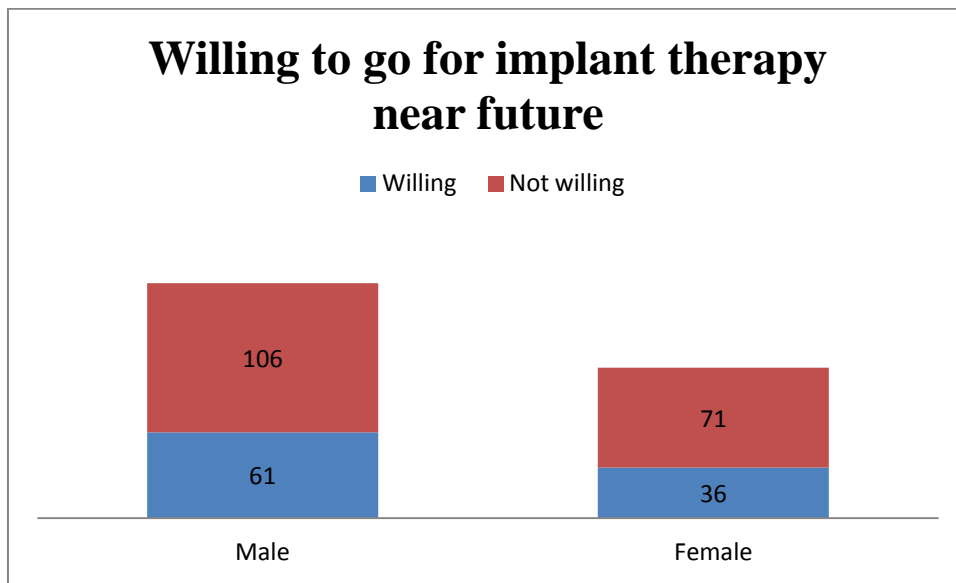
Graph 2. Showing number of participants in 3 age groups



Graph 3. Showing only 22.83% were aware about dental implant



Graph 4. Awareness of dental implant among male and female participant



Graph 5. Showing willingness of implant therapy by male and female patient in near future

Table 1. Showing education level of participant

Education	No of patient
Primary pass	421
Up to secondary	437
Graduation	282
uneducated	60

Table 2. Showing occupation of participant

Occupation	No of patient
Farmer	294
Labor	245
Business	218
service	169
Student	116
Non worker	158

Table 3. Level of awareness about implant

Gender	Yes	No	Total	Chi square value	p-value
Male	161	458	619	$X^2=7.321$	p=.001*
No	113	468	281		

• Highly significant.

Table 4. Showing various source of information regarding implant therapy

Source of information	No of patient
From dentist	153(55.83%)
News paper/TV/Radio/social media	62(22.63%)
Relatives & friends	46(16.78%)
Other	13(4.74%)

Table 5. Willingness of implant therapy near future among who were aware

Gender	Yes	No	Total	Chi square value	p-value
Male	61	106	167	$\chi^2=0.237$	p=.62(>.0.05)
No	36	71	107		

Table 6. Showing reasons for not going implant therapy

Source of information	No of patient
High cost	58(32.76%)
Surgical procedure	53(29.94%)
Dentist not referring for implant	38(21.46%)
other	28(15.81%)

4. CONCLUSION

Within limitation of the study we concluded very less awareness (22.83%) among the Malda Population. So there is need for bringing more awareness program brought by various Government & Public organization to educate the general population. As dentist is the major source of information, dentist should educate and motivate the edentulous patient towards the implant therapy. Major reason for not accepting the dental implant therapy is the high cost, thus effort must be taken to reduce the cost of dental implant. Further study must be conducted for assess correlation between awareness of implant therapy with level of education and type of occupations among the Malda population.

DISCLAIMER

The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

CONSENT

As per international standard or university standard, patients' written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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APPENDIX

1. NAME:-

2. AGE:- 15-29 Year
30-54Year
>55 year

3.SEX:- M F

4. EDUCATIONAL QUALIFICATION:-

UNEDUCATED BELOW SECONDARY SECONDARY GRADUATION

5. OCCUPATION:-

FARMER LABOR BUSINESS SERVICE STUDENT NON -
WORKER

6. DID YOU HEARD ABOUT DENTAL IMPLANT?

YES NO

7. FROM WHERE HAD YOU HEARD?

FROM DENTIST NEWS PAPER/T.V./SOCIAL MEDIA RELATIVES & FRIENDS OTHERS

8. ARE YOU WILLING TO GO FOR IMPLANTS THERAPY IN NEAR FUTURE?

YES NO

9. WHAT IS THE REASON FOR NOT OPTING DENTAL IMPLANT THERAPY?

HIGH COST SURGICAL PROCEDURE DENTIST NOT ENCOURAGE FOR IMPLAN
OTHERS

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