

# KNOWLEDGE AND AWARENESS OF DENTAL IMPLANTS AMONG GENERAL PUBLIC IN INDIA- A WEB-BASED QUESTIONNAIRE SURVEY

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## ABSTRACT

**BACKGROUND:** To develop an evidence based report on the level of knowledge and awareness about dental implants among public in South India through web-based questionnaire. So that this can be utilized for better understanding of patients' needs and gain of knowledge among dental practitioners. **MATERIALS&METHODS:** A structured questionnaire survey was done to assess the level of knowledge and awareness about dental implants among the public through Google form. Two interviewers with dental background did the study, for a period of 4 months. All questions were close-ended multiple-choice questions.

**RESULTS:** 1050 participants recorded their responses for this survey. Among them 566 (53.9%) are males and 484 (46.1%) are females, between age groups of 15-75 years. About 59.81% people have heard implant as a treatment procedure and 40.19% not aware, but on the contrary only 7.8% respondents have undergone an implant procedure.

**CONCLUSION:** This survey reflects the clinical scenario of our day-to-day practice. Even though the patient knows of this dental treatment, many are not willing to undergo this procedure. The reason behind may be the fear of surgery or the cost of this treatment but it is in the clinician's hands to improve this current situation in South India. Based on the result of our study, it is prudent for the clinician to put more effort in order to deliver efficient treatment protocols and glean this evidence to improve patient's perception and acceptance for this treatment.

**KEY WORDS:** dental implants, public perception, web-based questionnaire and crosssectional survey

## INTRODUCTION

Demand for prosthetic rehabilitation is on the rise because of increased person's life span and increased quality of life. The awareness and interest among the public is more focused towards the fixed prosthetic option rather than removable prosthetic options I . The advent of dental implants have changed the prosthetic options for edentulous dental arches. Implant dentistry has become an excellent modality as it achieves the goal regardless the cause of change in the stomatognathic system II . With the interest towards fixed option and the advent of osseointegration made the dental implants to be the most reliable part of fixed prosthesis. However, oral rehabilitation has been going on since late 1950s with the use of titanium implants, the public perception of this treatment has never been studied. Rehabilitation with implant-supported prosthesis gained aesthetics, confidence, good general health, nutrition and has led to longevity of the patients life says literature on dental implants. Moreover, partially edentulous and completely edentulous patients with less bone support can be treated successfully with dental implants with various newer and novel technologies. Being a novel surgery, public of South India remain invariably apprehensive towards the implant treatment.

The reason behind this being, a varied cultural beliefs and age-old customs. People, still feel comfortable with conventional treatment option rather than new modern innovative treatment modalities, especially dental implants for missing teeth. Our study is first of its kind done in southern region of India and expected to probe into the data about awareness and knowledge and positive implications of Implant dentistry in India. A questionnaire is the basic platform for collection of information from public or professionals and pen-based or pencil-based questionnaire is preferred method of data collection. Despite being widely used, the conventional questionnaire survey has its own disadvantages in regard to time taken, sample size and work force. Rapid evolution of technology influenced the use of internet and web for data collection for exploring new knowledge in various fields of medicine and dentistry. This evolution helped the researchers overcome the difficulties of conventional methods.

In literature, vast studies exists in the field of dental implants, covering various aspects of this treatment

approach III. Only, few studies reported on the patients perception of the surgical procedure associated with the implant placement. Several studies from different countries do report the public understanding and awareness of dental implant procedures. However, being a novel approach, and a surgical intervention, it remains new modality of treatment to the public in sub-urban areas, which leads to apprehensive thinking and hesitance for the treatment, despite the potential benefits of this treatment regimen in providing the best toothrestoration, improving patient's aesthetics, self-confidence and quality of life. The aim of this present study was to evaluate the level of awareness among people of South India, to determine their expectations, to discover their source of knowledge and enhance their knowledge about procedural implications through requisite information about dental implants using a web-based questionnaire.

## MATERIALS AND METHODS

A web-based cross-sectional survey utilizing a structured questionnaire with multiple-choice questions was conducted in the public through Google forms application, among 1050 participants for a period of four months from August 2019 to December 2019. The closedended questionnaire included personal data, level of education, and their working nature. The purpose of this study were explained to the participant and the questions were structured to solicit the level of public knowledge concerning dental implants, and the source of this knowledge. The Ethical committee and Institutional review board of CSI College of dental Sciences and Research, Madurai, Tamil Nadu, India approved this study.

## STATISTICAL ANALYSIS

The descriptive statistics generated using Chi square test. Two-tailed probability value 'p' <0.05 was considered statistically significant.

## RESULTS

The results from the present study provides information about the awareness, knowledge, attitude and acceptance of dental implants among public of South India Demographics Data  
1050 participants with 566 (53.9%) males and 484 (46.1%) females, between age groups of 15-75 years, participated in this survey. Table-1 summarizes

the demographic data of the participating patients. Maximum responders were in the age group of 15-25 years (48.5%) and 47.24% under 26-55 years and 4.2% above 55 years. The overall mean age found to be 30.6 ( $\pm 11.3$  SD) years, ranging between 15 and 75 years. Majority (66.57%) of the respondents were college or university educated, 28.19% are professionals and 6% had some school education. Table-2 shows the Association between gender and responses to various questions and Table-3 shows the Association between age and responses to various questions. Table-4 shows the question wise statistics.

What are the treatment options for missing teeth?

Among the options given, 75.24% participants were aware that both removable and fixed replacement for missing teeth.

1. Have you ever heard of implant treatment procedure?

This survey reported a statistically significant result of 59.81% people have heard about implant as a treatment procedure and 40.19% not aware about it. There is an association between age groups and awareness of implant procedure with 509 respondents comes below 25 years i.e.  $P=0.002$ .

2. Source of knowledge about implant procedure?

Of 625 respondents of this question, majority are 351 males and 274 females. Maximum responders obtained their knowledge through friends (49.12%), followed by 23.68% through relatives, 12.96% through internet and 14.24% with other sources. Figure-1 illustrates the source of knowledge. There is a statistical significant result between the age groups and source of knowledge i.e.  $P=0.037 < 0.05$ , with 325 respondents are below 25 years of age.

3. How much is the cost of the implant?

About 59.35% (368 out of 620 respondents) people thought that the cost of an implant ranges from Rs.10,000- Rs.20,000. There is a statistical significant result depicting the influence of gender and the cost i.e.  $P=0.008$ , 64.76% male respondents think the cost is affordable. Age groups have influence on the knowledge of cost of implant, with the positive results of 63.55% people consider it as affordable procedure with  $P=0.029$ .

4. Have you ever undergone implant treatment?

Only 7.8% respondents have undergone an implant procedure, with a majority of 92.11% people

responded no to this question. There is a statistical significant results evident between gender and treatment i.e.  $P=0.025 < 0.05$ . It turns out among the 49 respondents who underwent implant procedure, 10% are females and 5% are males. In addition, there is statistical significant results between the age groups and treatment, with 8.65% of people come under the age group of 25-55 years.

5. How useful is the implant?

About 63.47% respondents consider implant is stronger and more durable. Both gender and age groups has statistically significant results, 66.7% males ( $P=0.04$ ) and 68.05% respondents below 25 years ( $P=0.02$ ) respectively considers implant is useful.

## DISCUSSION

In general, clinicians would prefer to conserve the remaining natural teeth rather than heading to a prosthetic option unless and otherwise it is needed. Missing tooth/teeth is not always a commendatory notion for any person. In this modern era, people are more concerned about their aesthetics, speech and smile. Hence, patients with missing teeth or those who seek prosthetic correction present with their set of challenges both clinically and psychologically. They always prefer a fixed prosthetic treatment option rather than a removable denture IV

Among the various treatment options, dental implants have gained a significant acceptance as an option towards providing a solution for various forms of edentulism. Nonetheless, clinical parameters in themselves can only provide a limited understanding of oral health outcomes from dental implant therapy (Guckes et al. 1996). Still, the clinicians and specialist feel a lacking in effective rendering of this treatment to the patients. The principal cause being the people accustomed to the traditional treatment options rather newer options. This hesitation in accepting the implant therapy pose a major setback for clinicians. The main objective of this study is to collect the patient reported details focused preliminarily on the effect of oral health on the day-to-day life 'quality of life', termed Oral Health-Related Quality Of Life (OHRQoL) or the patient's satisfaction with their oral health status (Newsome & McGrath 2006). Gerritsen et al. 2010V reported that there is a strong association between loss of teeth and OHRQoL.

Our study's concern is about the reality that hinder the effective delivery of dental implant treatment. The level of awareness and knowledge about dental implant is still a commodity that not frequently assessed among people in southern region of India, with no previous studies addressing this issue among this part of India. So, the preliminary objective is to gather information on level of knowledge and awareness of dental implant based on the general public response in order to device a better organized and comprehensive treatment option in the future both beneficial to the patient and to the clinician. Among the various options of replacing the missing teeth, about 75.24% participants were aware of the fixed and removable replacement of teeth. Among them 59.81% were aware and had a good knowledge about dental implant. This response correlates with results of various surveys done all over the world in which, Berge et al VI, Zimmer et al VII, Tepper et al VIII (2003a), and indicating the level of awareness as 77%, 70.1% and 72%, respectively.

However, studies conducted by Gharpure et al IX., Venkata et al X., and Satpathy et al XI., studies reported 32%, 29%, and 16%, respectively in India showed a lower level of awareness among the public. Our study showed the main source of knowledge about dental implants is through friends (49.21%) followed by 23.68% through relatives, 12.96% through internet and 14.24% with other sources. These findings differ from other studies conducted such as Saha et al XII and Suprakash et al XIII. showed that dentists were the main source of information. The survey done by Zimmer et al and Berge et al reported the main source is the media. In contrast to this, another study done by Al-Johany et al XIV showed similar results, where the main source of information was from friends and relatives. This result confirmed that family and friends are significant motivators for oral maintenance and tooth replacement in general.

When the cost range of dental implant treatment were enquired among participants, about 59.35% people had an estimate of range between Rs.10,000-Rs.20,000. Nevertheless, the gender and age really play a role in this response in which, 64.76% male respondents and 63.55% of age group below 25 years thinks the cost is affordable. This result is different from other studies, where Zimmer et al, Tepper et al. (2003a) and Berge et al reported the high cost of dental implant is the major disadvantage of this

treatment option.

Even though our study gives us a various stats about the opinion of dental implant among public, this particular response reflected the real status of implant therapy in clinics. Only 7.8% of respondents have undergone dental implant therapy as an option for rehabilitation with men opting this treatment predominantly. This pattern might be that females are more apprehensive towards surgical procedure. Therefore, the public have a fair amount of knowledge and awareness of dental implant but this has to be implicated in clinical practice to achieve a greater success in future.

## CONCLUSION

Within the limitation of this study, there is a reasonable level of awareness, knowledge and attitude towards dental implant therapy in South India when compared to that of global picture. The results of this study gives us a current situation of the clinical reality. Dentists should play a role in promoting community awareness about dental implants, as they are more reliable. This study reflects the present scenario among the people and it is high time the implant dentists in and around sub-urban areas of South India should gear up their sleeves to provide better patient care by equipping themselves, gaining knowledge through various mediums and educate patients for future implant treatments rather relying on traditional conventional treatment protocols. We being a Periodontist and an Implant dentist should add value to practice of implant dentistry and imbibe satisfaction in treating patients.

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