

Assessment of Public Awareness towards Dental Implants Using Web Based Survey Technique

Richa Shalya, P. Veerendra Nath Reddy, K. Rekha Rani,
Jammula Surya Prasanna

Department of Periodontics and Implantology, Kaloji Narayana Rao University, Hyderabad, Telangana

Corresponding Author: Richa Shalya

ABSTRACT

Introduction- The growing success of dental implants has made this treatment mode increasingly more popular for the replacement of missing teeth. The aim of study was to assess public awareness towards dental implants through web based survey.

Materials and methods- A questionnaire web based survey consisting of 11 questions on dental implant were conducted and assessed using percentage among 120 participants.

Results- 95.6% of the participants were aware of dental implants. Dentists are the main source of information on dental implants followed by internet. 84.6% of the participants wanted additional information on dental implants. 52.2% of the participants regarded high cost of treatment as biggest disadvantage. 45% of the participants blamed poor maintenance for the failure of implants. 36.3% of the participants thought implants would last 10 years. 85% of the participants were ready to restore their missing teeth with dental implants.

Conclusion- This study revealed a high level of awareness among public. Special measures should be made to reduce the cost of dental implants to a more affordable rate.

Keywords: Dental implants, Public acceptance, Information sources, Knowledge, Awareness, Attitude

INTRODUCTION

Dental implant is increasingly becoming more popular for replacement of missing teeth. It is titanium based screw which is placed into bone to replace missing teeth. The implant mimics the root of a tooth in function. A key advance in dentistry

has been the flourishing replacement of lost natural teeth by implants and the current and future application of implants to support intra and extra oral prostheses is a great implication in restoring dental health. Perspective and outlook of the population towards dental implants are less known.

Hence, it is essential to conduct a survey to determine patients' perceived level of awareness, sources of information, and their acceptance and satisfaction on implant treatment by analysing feedback. Several studies have been conducted on paper based survey in different parts of world with regards to awareness of dental implants as a treatment option. Pommer et al reported 79% of Austrian population expressed desire for implant treatment. [1] A survey from Sweden in 1999, reported a historic rise in interest of implant treatment to 95% over a period of 10 years. [2-4] Zimmer et al in 1992 demonstrated a high awareness rate as well as general positive attitude towards oral implant therapy. [5]

A recent innovation in survey technique has been the advent of web based survey (One of most widely utilized survey methods.) Web based survey have become more prevalent in areas such as evaluation research than paper based survey. Web survey is collection of large amount of information through self-administered electronic set of questions on the web without having to pay for interviewers, paper supplies or postage and doesn't require separate data entry for responses to be processed. The rise in web based survey is due to the increasingly widespread

availability of computers and the aim of this study was to assess public awareness towards dental implants using web based survey technique.

MATERIALS AND METHODS

A web based survey was conducted through online questionnaire (prepared in Google forms software) composing of 11 questions and assessed using percentage with intention of evaluating dental implant awareness among 120 participant's Mail-Id taken through social networking sites.(with 20-55 years of age for one week in December 2018 after approval from institutional ethical committee) . Questionnaire was prepared in English to facilitate completion and to get better understanding of the questions by the respondents. Online questionnaires were administered through computer/laptop/ smart phones. All the respondents were informed about the aims and objective of the study through their mail id. So out of 120, only 117 respondents participated in the survey.

A web-based questionnaire helped in ease of data collection,, recording, and maintenance of data for statistical analysis. The additional advantages were cost benefits and reduced time consumption. The data obtained from an online form were available instantly and could be easily transferred into specialized statistical software or spread sheets for further analysis.

Inclusion criteria were Persons aged between 20 to 55 years and Well educated subject (computer literate and had capability of understanding implant related questions).Exclusion criteria were Persons below 20 years and above 55 years and those who didn't have computer knowledge and capability of understanding the implant related questions. The web survey form included self-explanatory questions which were in correspondence to previous studies conducted Amit Prasad et al. [6] and Chowdhary et al. [7] Distribution of responses was examined using frequencies

and percentages. Descriptive statistics were presented for the scores of questionnaire.

Questionnaire-

Q-1 Do you know about dental implants as an option to replace missing teeth?

a) Yes (b) No

Q-2 Where did you get your information on dental implants?

- a) Family doctor / Physician
- b) Dentist
- c) Acquaintances / Family
- d) Magazines /Newspaper/ TV
- e) Internet

Q-3 Do you want more information on dental implants?

- a) Yes
- b) No

Q-4 Where do you think implants are anchored?

- a) Gums
- b) Jaw bone
- c) Teeth
- d) Not sure

Q-5 What do you think is the biggest disadvantage of implant based treatment?

- a) High cost of treatment
- b) Invasive surgery
- c) Long period for treatment completion
- d) Not sure

Q-6 How long do you think will an implant last?

- a) 05 years
- b) 10years
- c) 20 years
- d) Lifetime

Q-7 Whom would you blame for a dental implant failure?

- a) Dentist
- b) Patient
- c) Poor maintenance
- d) Incompatibility/rejection by body/allergy

Q-8 Do you think implant need special care and oral hygiene maintenance?

- a) More than natural teeth
- b) Less than natural teeth
- c) Same as that of natural teeth

- d) Not sure
- Q-9 Do you someone with dental implant treatment?
 - a) Yes, Myself
 - b) Yes, an acquaintance I know
 - c) No

Q)-10 Are you/is that acquaintance satisfied with dental implant treatment?

- a) Yes
- b) No

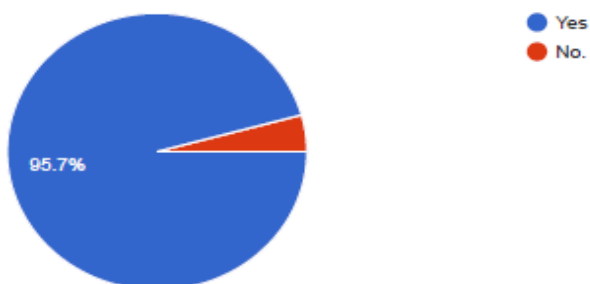
Q-11 Would you go ahead and restore missing teeth with dental implants

- a) Yes (b) No

RESULTS

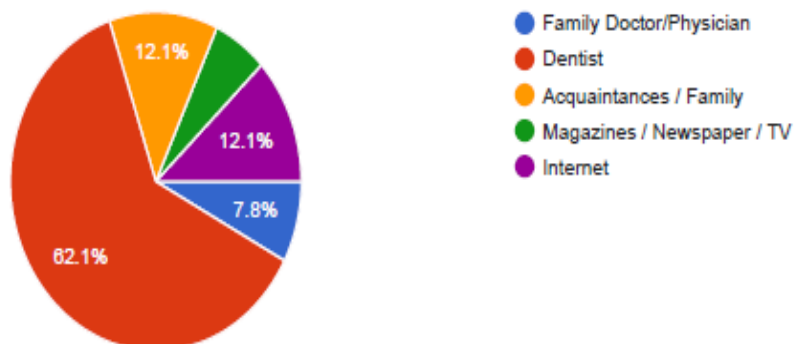
Do you know about Dental Implants as an option to replace missing teeth?

117 responses



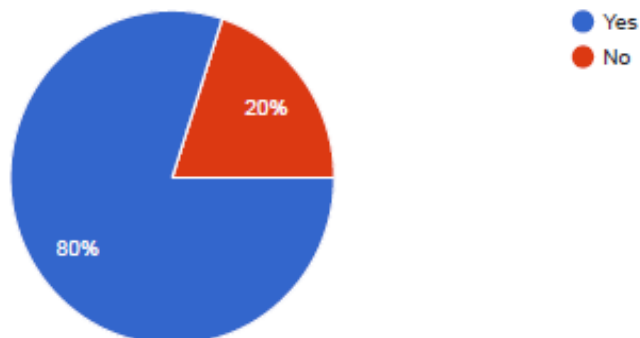
Where did you get your information on Dental Implants?

116 responses



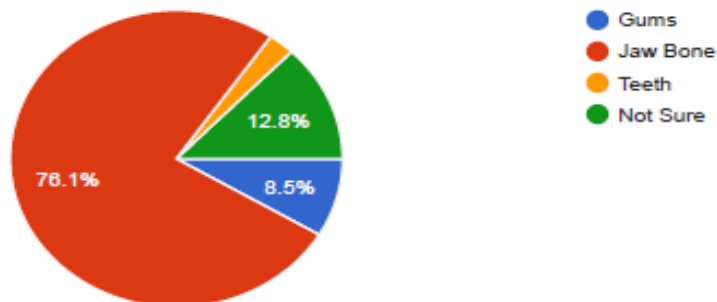
Do you want more information on Dental Implants?

115 responses



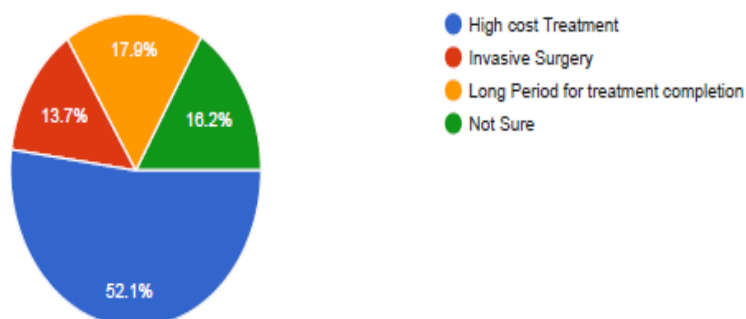
Where do you think Implants are anchored?

117 responses



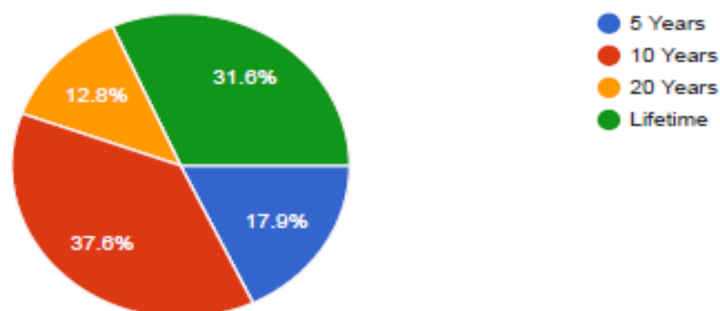
What do you think is the biggest disadvantage of Implant based treatment?

117 responses



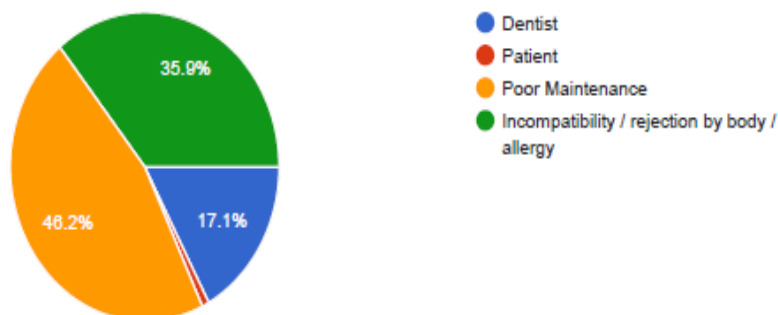
How long do you think will an implant last?

117 responses



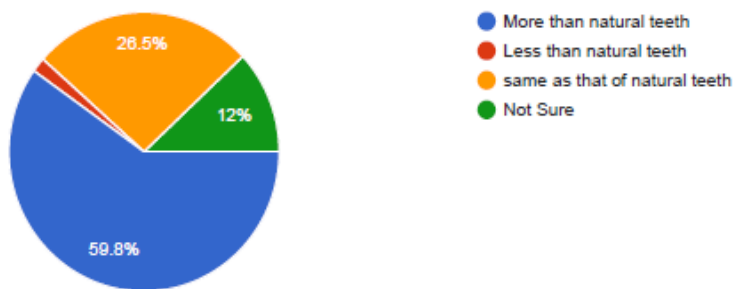
Whom do you blame for a Dental Implant failure?

117 responses



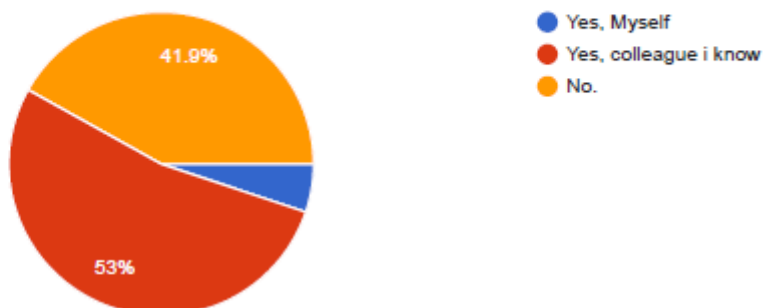
Do you think implant need special care and oral hygiene maintenance?

117 responses



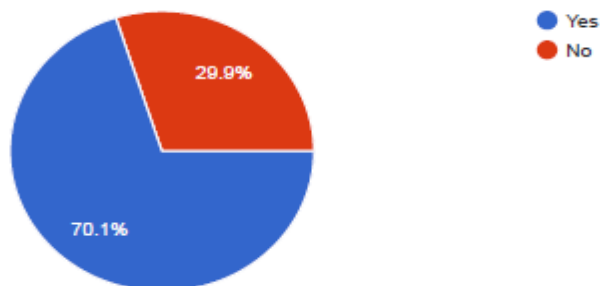
Do you know someone with Dental Implant treatment?

117 responses



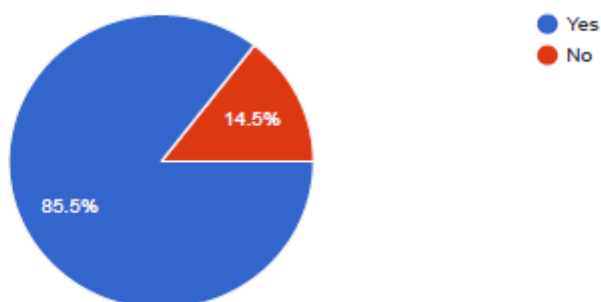
Are you / Is that colleague satisfied with dental implant treatment?

117 responses



Would you like to consider and restore missing teeth with dental implants?

117 responses



DISCUSSION

In present study, 95.7% of the participants were aware of dental implants. Dentists are the main source of information on dental implants followed by internet. This is in agreement with Pommer et al, [1] Chowdhary et al, [7] Ravi Kumar et al. [8] 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. [9]

80% of the participants wanted additional information on dental implants. A high percentage of the participants reported that they wanted more information on dental implants, especially from their dentist (62.1%) which is similar to the findings of earlier studies. [10,1] 52.2% of the participants regarded high cost of treatment as biggest disadvantage. 46.2% of the participants blamed poor maintenance for the failure of implants. 37.6% of the participants thought implants would last 10 years. 85.5% of the participants were ready to restore their missing teeth with dental implants.

Most of the participants clearly demonstrated a lack of knowledge on implant-based treatment. About two-thirds of the participants, who knew about dental implants, correctly answered that the jawbone was where implants are anchored whereas 8.5% marked gums and 12.8% were not sure. On being questioned how long implants would last, 31.6 % participants picked "a lifetime." and 37.6% participants picked 10 years. 35% participants reported that they would blame incompatibilities/allergies for implant failure/loss with dentists being a close third choice. 46.2% participants blamed the patient poor maintenance for implant failure and when asked if implants needed special care and oral hygiene, only 59.8% felt that implants need more care than natural teeth whereas 26.5% reported the same as that of natural teeth. These findings are similar to previous studies and highlight the fact that the current information on longevity, complications, and maintenance

of implants provided by dentists is insufficient. [10,1]

Almost 52.1% participants picked high cost as the single biggest disadvantage of implant treatment followed by invasive nature of the surgery and a long period for treatment completion. These findings are similar to previous studies. [10,1] The cost price of most reputed implants is high and this price has to be borne by the patients. More patients will opt for implant-based treatment options once their health insurance policies include coverage for such treatments. Similarly, the government should implement schemes to provide cheaper dental implant-based treatment options to patients with lower socioeconomic status.

When the participants who were aware of dental implants were asked if they specifically knew anyone else who had undergone dental implant treatment, 1.1% of them reported that they themselves had implant-based treatment, 53% of them knew of acquaintances who had implant-based treatment, and only 41.9% of them did not know anyone with dental implant treatment. Satisfaction with implant-based treatment was reported by 70% of the participants

Furthermore, on being asked if they would restore their missing teeth with implants, 85.45% of those aware of dental implants agreed to undergo implant-based treatment. This clearly indicates that participants, once familiar with implant-based treatments, would select such treatment options to replace their missing teeth and would generally be satisfied with the treatment provided. Some of the studies related to implant awareness had been conducted which are as follows:

Shivani Kohil (2015) conducted a study to assess patient awareness and attitude towards dental implants among Malaysian population using self explanatory survey and it was concluded that 56% of Malaysian population was aware of dental implant as an alternative for replacing missing teeth. [12]

Amit Prasad (2016) carried out the study to assess the public awareness of dental implants as a treatment option and its demographic in Indian metropolitan cities using a questionnaire survey consisting of 12 questions among 1000 individuals attending 8 dental clinics in Mumbai. It was concluded that there is lack of awareness of dental implants especially in those with low socioeconomic status. [6]

Pramita (2016) carried out the study to determine the status of knowledge, attitude and awareness about dental implants in a tertiary care hospital using a standard questionnaire among 192 patients. This study concluded that there are limited knowledge and awareness about dental implants in eastern Nepal. [13]

Al-Musawi A (2017) conducted a study to assess public awareness and perception of dental implants in randomly selected sample in Kuwait. A structured questionnaire was used in 527 adult participants in cross-sectional surveys. This study revealed a high level of awareness among public but lack of knowledge on procedural aspect. [14]

The findings of this study clearly point out a high level of awareness among public. However, a large number of participants were interested in obtaining additional information on implant-based treatment options from their dental practitioner. High cost long treatment period and need for surgery were the main disadvantages of implant treatment according to patients. As high costs were the main reason not to choose implant therapy, it is vital to highlight the patients that quality of life overshadows high cost of implants. Small sample size with shorter duration are the limitation of this study. With web based surveys, the respondents are able to answer the questionnaire by means of inputting their answers while connected to the Internet. [11] Then, the responses are automatically stored in a survey database, providing hassle-free handling of data and a smaller possibility of data errors.

CONCLUSION

This study revealed a high level of awareness among public on the potential benefits of dental implant for replacement of missing teeth. Special measures should be made to reduce the cost of dental implants to a more affordable rate. Web based survey has been a faster way of collecting data from the respondents as compared to paper based survey. Web based survey facilitates low-cost and fast data collection from the target population. Sending email questionnaire is more affordable than the face-to-face method. The results of this study need to be validated by conducting structured surveys involving larger population for a longer period of time. Furthermore, there is need to understand how the advance technology (computer, laptop, smart phones) play an important role in conducting web based questionnaire studies with their own benefits and drawbacks.

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 Implants Res 2011;22:223-9.
2. Narby B, Bagewitz IC, Soderfeldt B. Factors Explaining Desire for Dental Implant Therapy: Analysis of the Results from a Longitudinal Study. Int J prosthodont. 2011;24:437-44.
3. Narby B, Kronstrom M, Soderfeldt 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. Zimmer CM, Zimmer WM, Williams J, Liesener J. Public awareness and acceptance of dental implants. Int J Oral Maxillofac Implants. 1992;7:228-32.
6. Amit, Prasad, Arti S Gharpure- Awareness of dental implant treatment in an Indian

- metropolitan population. Journal of dental implant treatment 2016;6(2):62-68
7. 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.
 8. 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.
 9. Berge TI. Public awareness, information source and evaluation of oral implant treatment in Norway. Clin Oral Implants Res. 2000;1:401-7.
 10. Tepper G, Haas R, Mailath G, Teller C, Zechner W, Watzak G, *et al.* Representative marketing-oriented study on implants in the Austrian population. I. Level of information, sources of information and need for patient information. Clin Oral Implants Res 2003; 14:621-33.
 11. Hosadurga R, Tenneti S, Hegde S, Kashyap RS, Kumar A – Awareness, knowledge, and attitude of patients towards dental implants. J Dent Implant 2015;5:93-100
 12. Shivani Kohil, Shekhar Bhatia, Arvinder kaur- Patient awareness and attitude towards dental implants. Indian journal of dentistry 2015 Oct-Dec;6(4):167-171
 13. Pramita Suwal, Bishal babu, Bidhan, Prakash kumar Raj kumar singh - Knowledge, attitude and awareness regarding dental implants among patients visiting a university hospital and its teaching districts. Journal of dental implants 2016; 6(2):57-61
 14. Al-musawi, Sharma P, Dasti M- Public awareness and perception of dental implants in randomly selected sample in Kuwait. Journal of medical implants and surgery 2017 :2(2):1000116
- How to cite this article: Shalya R, Reddy PVN, Rani KR et.al. Assessment of public awareness towards dental implants using web based survey technique. Gal Int J Health Sci Res. 2020; 5(1): 38-45.
