



Knowledge, Attitude, and Practice of Dental Implants among Dental Post Graduates and Practitioners in Wardha District, Maharashtra: A Cross Sectional Study

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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

Background: Implant dentistry has become an important aspect of the treatment for patients who are partially or completely edentulous. Dental implants are a proven therapeutic option for replacing missing teeth, with positive long-term health outcomes. Dental implant performance is largely determined by the implant's primary durability, which is affected by surgical procedure, bone quality and quantity, implant surface characteristics, implant geometry, and implant surface characteristics. Despite the advancements achieved in implant dentistry since its beginning, there exist several limitations in scientifically grounded information and proven clinical experience among dental professionals and postgraduates. A study was conducted to assess and compare the knowledge, attitude and practice of dental implants among dental postgraduate students and dental practitioners (General and institutional in Wardha district, Maharashtra and to identify the variations in their knowledge, attitude and practice with respect to dentist's factors (years of experience, implant training and their specialization). As a result, the actual picture was examined.

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Objective:

- To assess the knowledge of dental implants among dental postgraduate students and dental practitioners
- To assess the attitude of dental implants among dental postgraduate students and dental practitioners.
- To assess the practice of dental implants among dental postgraduate students and dental practitioners.

Methodology: An online cross-sectional questionnaire survey will be done to examine responses to 20 selected questions pertaining knowledge, attitude, and practice of dental implants among dental postgraduates and practitioners in the Wardha district. The aspect of the results that will be examined. The questionnaire will be delivered to dental postgraduates and practitioners, and their replies, as well as the questionnaire's validation, will be recorded. In the cross-sectional study, a suitable sampling strategy was used based on the replies received following the survey. The results will be determined based on Knowledge, attitude, and practice of dental implants.

Survey Procedure: questions will be asked by online platform to dental health professionals with explanation of purpose of the study. The questions will be both open and close end type.

Expected Results: The expected result of the study will determine: Knowledge, attitude, and practice of dental implants among dental post graduates and practitioners in wardha district

Conclusion: Today is an era of evidence based dentistry. However, there is a substantial difference between the popularity of dental implants and the research that supports them. This research is an attempt to minimize that difference. Because this study will be done in an area where dentistry is in the air, with two large teaching dental hospitals and a large mass of dentists, it gives us a thorough realistic picture of where knowledge and practise of dental implants have reached in our field. As a result, the purpose of this study is to assess the need for a change in attitude and practise toward dental implants, as well as their evidence-based research on the subject.

Keywords: Dental implants; attitude; dental post graduates; practitioner; knowledge; practice; dental health professionals.

1. INTRODUCTION

In the field of dentistry, dental implantology is increasingly becoming a specialisation [1]. Dental implants have a history of several centuries starting with the early civilizations more than 2,000 years ago in South and North America and regions of the Middle Asia and Mediterranean [2]. Dentistry seems to have made its most significant advances in the previous five decades. Dental implants allow for the replacement of lost teeth with sturdy, comfortable, natural-looking, and feeling artificial substitutes [3]. While there is a substantial quantity of evidence on the survival and success of dental implants,[4]. as well as a rising body of evidence on the perceived benefits to patients,[5,6] there is a lack of information accessible on the providers' perceptions of dental implants [7]. Dentists' knowledge and attitudes concerning a treatment technique can have a substantial impact on treatment decision-making and,[8] as a result, "define" how oral health care is delivered and accepted [9,10,11]. As a result, the primary goal of this study was to assess and compare dental implant knowledge,

attitude, and practise among postgraduate students (PGs),[12,13]. institution-based practitioners (IBPs), general dental practitioners (GDPs), and institution-based nonpractitioners (IBNPs), as well as to assess the impact of dentists' factors (years of experience, implant training, and specialisation) on the same [14,15,16].

1.1 Background/Rationale

The findings of this study will help dental care professionals to evaluate the need of Implementation of attitude and practice towards dental implants and their evidence based knowledge about the same.

1.2 Objective

1. To assess the knowledge of dental implants among dental postgraduate students and dental practitioners.
2. To assess the attitude of dental implants among dental postgraduate students and dental practitioners.

3. To assess the practice of dental implants among dental postgraduate students and dental practitioners.

2. METHODS

2.1 Sample Selection

Sample size is determined using the given formula:

$$\sqrt{n} = \frac{z_{\alpha/2} \times \sigma}{E}$$

Where,

σ = previous expected values=20

E =desired Margin of error = 5

$Z_{\alpha/2}$, confidence interval of 90%, $z = 1.65$

n = sample size estimated 350

2.2 Inclusion Criteria

- Dental professionals.

2.3 Measurement

The questionnaire is arranged according to examine respondents' socio-demographic characteristics, dental service specifics, and a self-assessment of service quality. The items used in the self-assessment of service quality will be graded using a five-point Likert Scale [10]. Participants will be asked to complete a questionnaire in a particular period and demographic information was included at the start of the survey.

Bias: All the potential sources of bias have been removed.

Quantitative variables: all the demographic details and the questions in relation to the questionnaire will be recorded with the help of electronic forms and record in the excel sheet.

Statistical methods: statistical software of SPSS version 22 has been used for the analysis.

Descriptive statistics and frequency distribution will be done for recording the demographic details and responses of the questionnaire. Person's correlation and chi-square analysis is done to evaluate the association between age, gender and socioeconomic scale with the perception of the patients towards the selection of dentist.

3. EXPECTED OUTCOMES/RESULTS

The expected result of the study will determine: Knowledge, attitude, and practice of dental implants among dental post graduates and practitioners in wardha district.

3.1 Key Results

Dental professionals, attitude, dental implants, dental post graduates, dental practitioner, knowledge, practice.

3.2 Generalizability

The study has a good external and internal validity.

4. DISCUSSION

The absence of natural teeth is a health issue that not only compromises function but also has a significant impact on a patient's appearance and psychological well-being. Since the dawn of time, different attempts have been performed to replace missing teeth with prosthetics that function and look like natural teeth. Dentures and fixed bridges are used to attain this result. Dentures and fixed bridges, on the other hand, have certain intrinsic issues, such as compromising adjacent good teeth and accumulating food debris and plaque. Moreover, replacing lost teeth with dental implants provides long-term answers to the challenges. As a result, dental implant therapy has become a very predictable treatment for edentulous patients.

Mgbeokwere U, Okoye L, Ekwueme O conducted a survey of the knowledge of dental implants as a choice in treatment of edentulous jaws among health workers in Government Dental Clinics in Enugu. Ann Med Health Sci Res. To determine if health workers in these hospitals were aware of dental implants as a choice for replacing missing teeth. The survey was conducted using a random sampling with self-administered questionnaires among health workers in the three health institutions in Enugu between January and February, 2009. Out of 320 respondents in the study, only 31 (9.7%) were aware of dental implant, while 23(7.2%) recognised it as a choice in tooth replacement. They concluded that the knowledge of dental implants as a replacement choice for missing dentitions is low among health workers in Enugu .the dentists in these centres had limited knowledge of oral implantology and therefore did

not practise it, and in place of it, they did other apparently simpler procedures. The overall effect therefore, was poor information and poor knowledge of dental implantology among the health workers.

Akeredolu PA, Adeyemo WL, Gbotolorun OM, James O, Olorunfemi BO, Arotiba GT, *et al* conducted a clinical research of knowledge, attitude, and practice of dental implantology in Nigeria. *Implant Dent* 2007;16:110-8. The purpose of this study was to assess the knowledge, attitude, and practice of dental implantology among dentists practicing in Nigeria. Self-administered questionnaires to assess the knowledge, practice, and attitude of dental implantology were sent to dentists practicing in all the 6 geopolitical zones of Nigeria (i.e., all tertiary dental institutions, and selected general and private hospitals within the zones). Data collected were analyzed and presented in descriptive and tabular forms. The response rate was 77%. Only 2 (1.3%) of the respondents claimed to have employed implant(s) for dental restoration in their practice, while 152 respondents (98.7%) have never used implants as a method of tooth/teeth restoration. Of the latter, 46.1% have suggested implants for full/partial denture patients, 31.8% have suggested dental implants to patients needing single-tooth replacement, and 89.6% were ready for dental implant placement if equipment and materials for dental implants backed up with adequate training were provided. Of respondents, 83.1% also believed that implantology is a multidisciplinary approach, and 42.9% rated implants as the best option for dental restoration. This study concluded that the practice of implant dentistry is presently very low in Nigeria. Clearly, there is a need for dental implant education for Nigerian dentists to increase their knowledge and proficiency in dental implant dentistry. In addition, all efforts should be made to include implant education and practice in dental curricula in undergraduate and postgraduate institutions in Nigeria.

Implant training has been found to be an additional aspect that improves understanding, promotes a positive attitude, and encourages implant practice. In terms of knowledge, attitude, and results, people who have received implant training clearly have an advantage over those who have not. This is in line with the findings of a 2013 study by Lang-Hua et al. A study conducted by Maalhigh-Fard et al. in 2002 found that graduates who had completed the elective

programme in implant dentistry had a better favourable link with offering and restoring implants.

According to the findings, the majority of IBPs were competent enough to place implants and thus did not require any implant training, whereas postgraduates believed they were least competent to place implants despite having the most knowledge of the subject and thus required implant training. The reason for this discrepancy could be that postgraduates have less exposure to practicing implants; therefore, this should be included in the curriculum.

According to Eckert et al 2012 study, the majority of prosthodontists employ implant-supported prosthesis in their practice. Oral surgeons and periodontists are closely following this because they are the pioneers in putting a prosthodontist's strategy for dental implants into action.

The question of which specialization the study of implants belongs to has always been a source of debate. It is, nevertheless, regarded as a multidisciplinary approach. As a result, institutional efforts should be made to extend implants' knowledge, attitude, and practice to other streams as well.

5. CONCLUSION

Today is an era of evidence based dentistry. However, there is a substantial difference between the popularity of dental implants and the research that supports them. This research is an attempt to minimize that difference. Because this study will be done in an area where dentistry is in the air, with two large teaching dental hospitals and a large mass of dentists, it gives us a thorough realistic picture of where knowledge and practise of dental implants have reached in our field. As a result, the purpose of this study is to assess the need for a change in attitude and practise toward dental implants, as well as their evidence-based research on the subject.

CONSENT

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

ETHICAL APPROVAL

It is not applicable.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Mgbeokwere U, Okoye L, Ekwueme O. A survey of the knowledge of dental implants as a choice in treatment of edentulous jaws among health workers in Government Dental Clinics in Enugu. *Ann Med Health Sci Res.* 2011;1:91-5.
2. Pjetursson BE, Lang NP. Prosthetic treatment planning on the basis of scientific evidence. *J Oral Rehabil.* 2008;35(Suppl1):72-9.
3. Lang-Hua BH, Lang NP, Lo EC, McGrath CP. Attitudes of general dental practitioners towards implant dentistry in an environment with widespread provision of implant therapy. *Clin Oral Implants Res.* 2013;24:278-84.
4. Ng PC, Pow EH, Ching SH, Lo EC, Chow TW. Dental implant practice among Hong Kong general dental practitioners in 2004 and 2008. *Implant Dent.* 2011;20:95-105.
5. Akeredolu PA, Adeyemo WL, Gbotolorun OM, James O, Olorunfemi BO, Arotiba GT, et al. Knowledge, attitude, and practice of dental implantology in Nigeria. *Implant Dent.* 2007;16:110-8.
6. Sen S, Balwani T, Sahu A, Parate N, Gehani A, Deolia S. Tooth loss and associated risk factors among rural population of Wardha District: A cross-sectional study. *J Indian Assoc Public Health Dent* 2018;16:11-7
7. Kery V, Spiro CK, Brian SS, Joseph AT. Dental Implants: Solution for Life. *EON Clinics Newsletter.* Available: <http://www.eonclinics.com> [Last accessed on 2013 Mar 23].
8. Woolgrove J, Cumberbatch G, Gelbier S. Understanding dental attendance behaviour. *Community Dent Health.* 1987;4:215-21.
9. Akeredolu PA, Adeyemo WL, Gbotolorun OM, James O, Olorunfemi BO, Arotiba GT, et al. Knowledge, attitude and practice of dental implantology in Nigeria. *Implant Dent* 2007;16:110-8.
10. Shilpa B, Vasudevan S, Bhongade M, Baliga V, Pakhare V, Dhadse P. Evaluation of survival of 8 mm-length implants in posterior Resorbed Ridges: A pilot study. *Journal of Indian Society of Periodontology.* 2018;22(4):334–39. Available:https://doi.org/10.4103/jisp.jisp_368_17.
11. Khungar, Priyanka N, et al. Customized treatment option for Malpositioned dental implant placed in aesthetic zone. *Journal of Evolution of Medical and Dental Sciences.*2020;9(39):2930+. GaleAcademicOneFile, link.gale.com/apps/doc/A638877468/AONE?u=anon~462e1efc&sid=google Scholar&xid=1ac10147. Accessed 7 Nov. 2021.
12. Ajit S, Vidushi S, Amit B, Manish D, Kanika S, Priyanka Paul M. "Dental Implant Design- An insight overview". *Jour. of Med. P'ceutical & Alli. Sci.* 2021;10(14): 12543101-3105. DOI:10.22270/jmpas.V10I14.1254
13. Mistry RA, Pisulkar SK, Godbole S, Sathe S, Borle A. An appraisal of bone resorption in completely edentulous diabetic and nondiabetic patients at prospective implant site in anterior mandible using digital volumetric tomography and its correlation with glycemic control: A case-control study. *Natl J Maxillofac Surg.* 2020;11(1):28-33. DOI:10.4103/njms.NJMS_100_19
14. Maalhagh-Fard A, Nimmo A, Lepczyk JW, Pink FE. Implant dentistry in predoctoral education: The elective approach. *J Prosthodont* 2002;11:202-7
15. Pisulkar, Sweta G., et al. "Correlation of bone mineral density on primary implant stability in elderly edentulous patients: A literature review." *Scholars Academic Journals of Biosciences.* 2016;4:822-826.
16. Belkhode, Vikram M., et al. Rehabilitation of anterior partial edentulous condition—a case report. *Journal of Pierre Fauchard Academy (India Section).*2019;33(4):59-63.

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