



Assessment Of Knowledge and Awareness Related To Intra-Oral Scanners Among The Dental Care Professionals Of Gujarat: A Questionnaire Based Survey.

¹Dr. Jiney Jain*, ²Dr. Pankaj Patel, ³Dr. Adit Shah, ⁴Dr. Aneri Patel, ⁵Dr. Dishant Chaudhary, ⁶Dr. Kushladevi Pandey

²Head of Department, ^{3,4}Reader, ⁵Senior Lecturer, ^{1,6}Post Graduate Student
Department of Prosthodontics, Goenka Research Institute Of Dental Science, Gandhinagar, India, Pin – 382610

***Corresponding Author:**

Dr. Jiney Jain

Post Graduate Student, Department of Prosthodontics, Goenka Research Institute Of Dental Science, Gandhinagar, India

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Abstract

Aim : Digital dentistry is an emerging branch which aims on improving the efficiency of the outcome of the treatment. One of the newly used instruments which has gained a lot of popularity is an intraoral scanner. An intraoral scanner helps in recording digital impressions which overcomes the limitations of conventional impressions. Hence, it is important to increase the awareness about all the aspects of intraoral scanner to utilize it to its full potential. The objective of this study is to evaluate the knowledge and awareness of intraoral scanners and the effects of different lights on its accuracy among dentists. The present study was done among the dental practitioners, post graduate students and interns in Gujarat. A questionnaire was made and given to the dentist to check their knowledge and awareness about intraoral scanners.

Materials and Methods: Around 105 dental professionals were interviewed through a questionnaire. Those interviewed included an equal number of dental interns, postgraduates, and practitioners.

Results and Discussion: A positive attitude towards intra-oral scanners was observed among those questioned. The difference was statistically significant among the groups. However, inputs from this survey can be used to organize awareness and knowledge regarding intra-oral scanners of joint ventures.

Conclusion: These surveys conclude that current knowledge on intra-oral scanners among dentists is still reduced. So, the overall perception of the general dentists towards intra-oral scanners in Gujarat needs to be gauged.

Keywords: Dentists, Gujarat, Intra-oral scanners, Survey, Questionnaires

Introduction

Digital dentistry is an emerging avenue in the field of dentistry. It refers to the use of digital technology and computer aided systems to carry out dental procedures in contrast to the manual methods (Neville and van der Zande, 2020). It is gaining popularity because of its accuracy and efficiency when compared with mechanical tools. The digital revolution has made a significant impact in changing the workflow which in turn affects the operating procedures (Mangano, Shibli and Fortin, 2016). The

need of the hour is digitizing our work to obtain maximum efficiency (Kudva, 2016). There are different tools which have helped make digital dentistry an easier podium to work with. One such equipment is the use of intraoral scanners. Intraoral scanners (IOS) are devices for recording direct optical impressions in dentistry. Like other three-dimensional scanners, intraoral scanners project a light source onto the object which has to be scanned.

It can be a dental arch, prepared tooth or scan bodies of implants.

Advantages of using optical impression with intraoral scanners

1. Less discomfort for the patient
2. Time efficient
3. Better communication with the patient and dental technician
4. No errors due to errors in cast pouring
5. The procedure becomes simplified.

Disadvantages of using optical impression with intraoral scanners:

1. Subgingival finish lines are difficult to detect
2. Costly and difficult to maintain

This survey was conducted to know about the awareness of intraoral scanners among dental practitioners, post-graduate students & interns of Gujarat.

Materials And Method :

Around 105 dental professionals were interviewed through a questionnaire. Those interviewed included an equal number of dental interns, postgraduates, and practitioners. They were interviewed on a google form. Knowledge was assessed on a two-point scale: Yes, No. The proforma comprised of two sections. The first section collected to demographic details of the participants like name, E-mail id, gender and category and the second part comprised 11 questions which are as follows:

- 1) Are you aware of Intra-Oral Scanners in Dentistry?
- 2) Will you apply the usage of Intra-Oral Scanners in routine Dental practice?

- 3) Do you think Intra-oral scanners are more accurate than the conventional impression taking methods?
- 4) Have you heard of any specific brand of Intra-oral scanner?
- 5) Do you think, optical impressions are time efficient?
- 6) Do you think that the use of intra-oral scanners will make dental procedures simplified for the clinician?
- 7) Do you think, use of intra-oral scanners will allow the skipping of the detection of physical impressions and subsequent casting of gypsum models?
- 8) Do you think intra-oral scanner will help in better communication with the Dental Technician?
- 9) Do you think Optical Impression will help in better patient communication and education?
- 10) Do you think optical impression files can help to maintain and evaluate the patient treatment?
- 11) Do you think Intra-oral Scanners is the future of Dentistry?

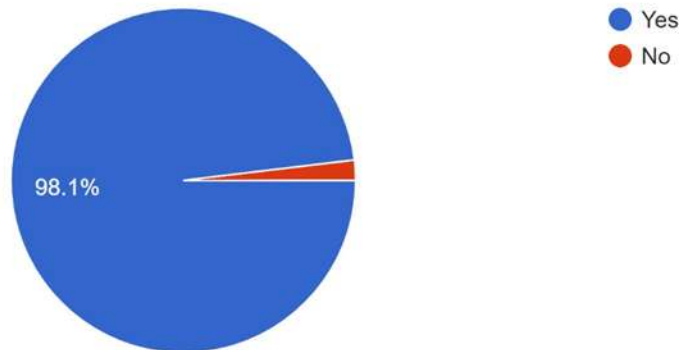
The responses were compiled, computed and analysed for agreement or otherwise between and within the groups. Chi-square test with its corrections was used to confirm the difference in proportions. Probability of 95% was considered as statistically significant.

Results :

Of 105 dentists included, 29% were males while 71% were females. About 98% dental professionals were aware of the intra-oral scanners used in Dentistry.

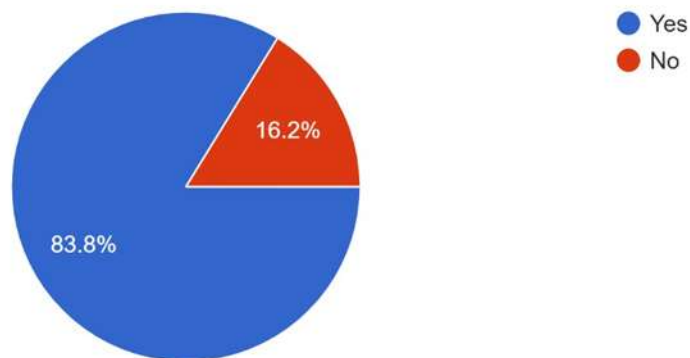
Are you aware of Intra-Oral Scanners in Dentistry

105 responses



About 83% professionals uses intra-oral scanners in routine dental practice. Will you apply the usage of Intra-Oral Scanners in routine Dental practice?

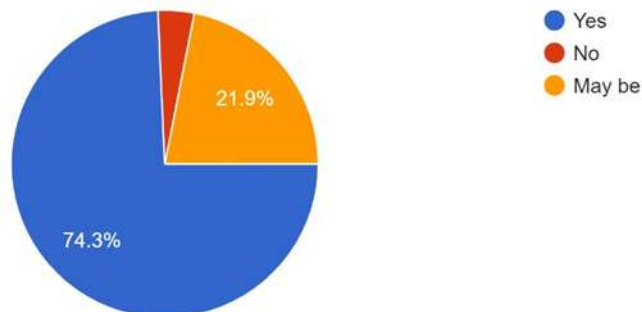
105 responses



About 74% dental professionals felt that intra-oral scanners are more accurate than conventional impression taking methods.

Do you think Intra-oral scanners are more accurate than the conventional impression taking methods?

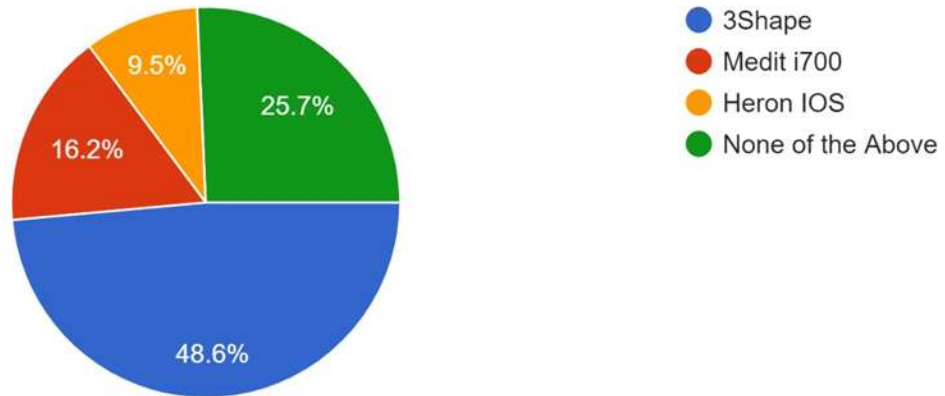
105 responses



About 48.6% dental professionals have heard about 3Shape, 16.2% have heard about Medit i700, 9.5% about Heron IOS whereas 25.7% of dental professionals have not heard of any brand of intra-oral scanner.

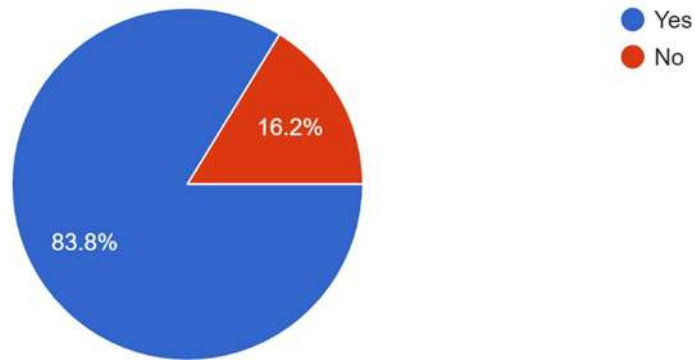
Among the following, have you heard of any Intra-oral scanners?

105 responses



About 83% dentists felt that optical impressions are time-efficient
Do you think, optical impressions are time efficient?

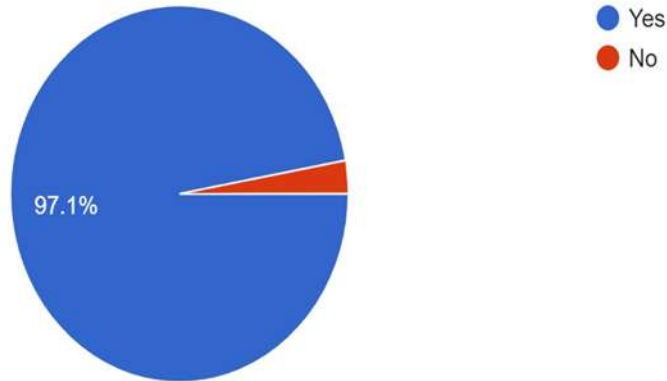
105 responses



Almost all dentists which is about 97% felt that the use of intra-oral scanners will make dental procedures simplified for the clinician.

Do you think that the use of intra-oral scanners will make dental procedures simplified for the clinician?

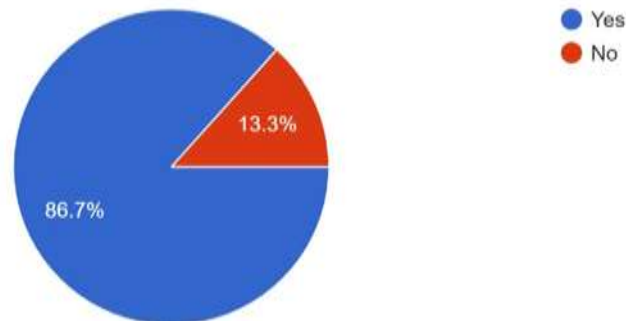
105 responses



About 86% felt that use of intra-oral scanners will allow the skipping of the detection of physical impressions and subsequent casting of gypsum models

Do you think, use of intra-oral scanners will allow the skipping of the detection of physical impressions and subsequent casting of gypsum models?

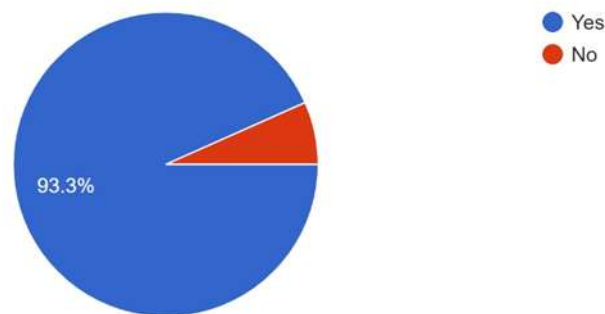
105 responses



About 93% dentists felt that intra-oral scanner will help in better communication with the Dental Technician and 96% dentists felt that optical impression will help in better patient communication and education as well as to maintain and evaluate the patient treatment

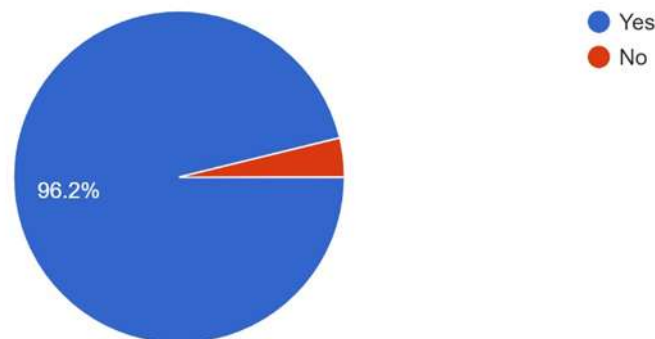
Do you think intra-oral scanner will help in better communication with the Dental Technician?

105 responses



Do you think Optical Impression will help in better patient communication and education?

105 responses



All the dental professionals thought that intra-oral scanners is the future of the Dentistry.

Based upon the results of this survey, we have identified certain factors which could be changed for the betterment of the society. Knowledge and Awareness about intra-oral scanners should be given to dental professionals in the era of Digitization.

Limitations :

A critical limitation of this research is that this study is questionnaire predicated and knowledge and awareness of intra-oral scanners may not be neat charged by this method. The answers may exist subject to sociable advisability bias, compliance bias, and obsequiousness.

Future Directions :

Intraoral scanners are the future of dentistry. By implementing them into your practice now, you will put yourself and your team ahead of the curve in dental care. Your patients will be thrilled with the

ease and efficiency of this new technology, giving them even more incentive to move forward with treatment. An investment in an intraoral scanner now will be an investment in your practice, your standard of care, and above all, your patients.

Conclusion :

The current study reveals that the dental students and practitioners should be educated about the different aspects of intraoral scanners so that they can harness the full potential of intraoral scanners with minimum errors. The undergraduate and postgraduate students should be taught about the latest equipment and their proper use in their curriculum and there should be more lectures and seminars by the speakers for increasing the awareness about the proper use of latest techniques and equipment among the dental practitioners.

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