Original Article

Acquaintance of Dental Implants as a Treatment Modality in Edentulous States among Health Workers in Aseer Province, KSA

S Chaturvedi, AR Ahmed, MW Hussain, AS Alshehre, MA Abdullah

Department of Prosthetic Dentistry, College of Dentistry, King Khalid University, Abha, Saudi Arabia

ABSTRACT

Purpose: To identify the acquaintance of dental implant (DI) as a treatment modality in edentulous states among health workers in the Aseer region and also to assess the level of understanding about DI among them. **Materials and Methods:** A questionnaire set of 18 questions was used for 500 health workers from the concerned area about DI. Questionnaire set basically consists of questions to assess the attitude, perception, and knowledge among them about DI. The data collected and association with the factors were tested for significance using the Chi-square test and $P < 0.05$ was considered statistically significant. **Results:** The response rate was 89%. More than 75% were aware of DI, but only 50% of the total respondents were knowing about the difference between the DI, fixed prosthesis, and removable prosthesis. Of the latter, 47.4% have suggested implants for patients and about 55% respondents were agreeing to get DI done for themselves. Dental health care workers have more knowledge than the medical health workers, and the difference was found to be statistically significant. Of respondents, >90% were willing to know more about DI. **Conclusion:** The practice of implant dentistry is growing in the Aseer region. However, general health workers are not fully aware of proper DI information. In addition, all the efforts should be made to include basic implant education in all the branches of health sciences and the CDE program should be conducted regularly to enhance the knowledge, so that correct information can be channelized to the patients.

KEYWORDS: *Dental implant, dental practitioners, medical practitioners, questionnaire*

Date of Acceptance:
31-Oct-2018

INTRODUCTION

Oral rehabilitation by means of dental implants (DI) has developed as an important treatment option and is developing with a high speed.[1,2] Unanimously, DI replaces the missing teeth both esthetically and functionally[1,3] and are proven as extremely expectable. It is documented and proved that overall 5-year implant survival rate ranges from 93% to 97%.[4] Overall long-term reported failure rates are 10% for fixed partial dentures (FPD),[5] 19% for resin-bonded bridges,[6] 13% for hemisection and root amputation,[7] 15% for endodontic therapy,[8] and 34% for endodontic retreatment,[9,10] thus implant therapy has overruled the conventional method of restoration and this is also proved by various clinical researches.[11-14]

DI have reformed the treatment of edentulous patients and improved deciding factors of denture success such as stability, retention, functional efficiency, and quality of life.[11-16] At present, DI are one of the commonly accepted treatment modality of completely or partially edentulous patients[17,18] within the dental fraternity.

Access this article online

Quick Response Code:

Website: www.njcponline.com

DOI: 10.4103/njcp.njcp_469_18

Address for correspondence: Dr. S Chaturvedi, Department of Prosthetic Dentistry, College of Dentistry, King Khalid University, Abha, Saudi Arabia.
E-mail: smc1@live.in

How to cite this article: Chaturvedi S, Ahmed AR, Hussain MW, Alshehre AS, Abdullah MA. Acquaintance of dental implants as a treatment modality in edentulous states among health workers in Aseer Province, KSA. Niger J Clin Pract 2019;22:24-33.

Several studies on patient acceptance and satisfaction have shown encouraging results regarding DI treatment. Pommer *et al.* reported 79% of the Austrian population expressed desire for implant treatment.[19] Grogono *et al.* (1989) found in his study that self-confidence of the patients increased after DI treatment in 88%, 89% were ready for DI again if needed, and 98% reported improvement in their oral health.[20] A survey, in Riyadh, about the level of satisfaction of Saudi nationals after DI treatment revealed that 71% were highly satisfied with the esthetic results, 78% function, 76% were willing to undergo the same procedure again, and 79% recommend it to others.[21] Sweden population showed histrionic rise in interest of implant treatment to 95% over a period of 10 years.[22-24] The literature search of reports on DI, roughly 6000 citations were found, which reflect the extensive basic and clinical research on a wide spectrum of aspects,[25] however, still in our society in the Aseer region, incomplete knowledge, cost of treatment, and improper motivation of patients about DI have limited the choice of DI for replacing missing teeth.[6,7]

At times of need for dental treatment, on usual basis patient seeks advise not only from the dental and medical professionals, but also suggestions are taken from the other health workers like nurses, dental therapists, dental technologists, laboratory staff, health attendants, and even from his family, friends, and relatives. Thus suitable understanding about the DI is of utmost importance at least for the health workers as they are the major guiding force accessible to patients. These health workers should emphasize the importance of DI to patients so a better long-lasting efficient treatment can be achieved by the patient.

Unfortunately, in area of our concern, still traditional/conventional methods of dental restoration [FPD, removable partial denture (RPD), and complete denture (CD)] are widely practiced rather than DI. The reason behind this may be the incomplete knowledge to health forces itself regarding the DI, due to deficiency in undergraduate curriculum. Also, unrealistic patient expectations due to deceitful claims and flyer by few like "implant forever" results in loss of trust in this treatment modality.[26,27] This actually creates an impending requirement for the dental and medical practitioners along with entire health force to be well informed and understand all aspects of the DI.[28] When right kind of information is channelized to the patients and community, it will further help in promoting DI among the patients.[29] Definitely patients and public access health workers at an ease through formal or informal interactions. Through these collaborative sessions, they often play a role of health educators in their work places. Hence, it is important to evaluate their level of knowledge for DI and whether their awareness of DI does in fact reflect reality in order to guide patients who do not have the education or background understanding to make a cognizant choice among implant supported prosthesis and conventional prosthesis.[23,24,30,31]

Hence, this study was intended to identify the acquaintance of DI as a treatment modality in edentulous states among health workers in the Aseer region and also to assess the level of understanding about DI among them.

Materials and Methods

The current research was an observational cross-sectional type of study where the data were collected from the representative population at a specific time interval of 6 months. A quota sampling (non-probability sampling) technique was used with a sample size of 500 participants. These respondents were health workers in the Aseer Province, Saudi Arabia. Out of these 500 participants, 445 have given response. Thus, the study was included of 445 participants.

Ethical considerations

This study was conducted in compliance with the protocol; ethical approval was taken from the ethical committee of the institute. The subjects participating in the present study provided their informed consent. Participation was on a voluntary basis and there were no incentives. Data protection and anonymity were guaranteed.

The study was carried out with the help of 18 well-structured questionnaires [Appendix 1]. The questionnaire reliability was evaluated by four prosthodontists for vetting and remarks. The recommended modifications were implemented to ensure the cogency. Also, questionnaires were validated by doing a pilot study on 30 participants. It helped in assessing the knowledge, awareness, and attitude toward DI treatment among the participants. These questionnaires were given personally or e-mailed to the participants. Each participant's communication data were collected and coded. At an interval of 1 week, two times all the participants were reminded regarding returning of the questionnaire forms with response. Wherever essential, detailed explanation was provided regarding study and its use.

Questionnaire set basically consists of three sections. The first section determines participant's demographic and professional data; second section (first five

questions) helped in assessing the knowledge regarding the modes of missing teeth replacement, where the participants have to answer the questions which were in the form of "Yes/No" and the multiple-choice questions. For analysis purpose the YES was coded as 1 and NO was coded as 2 and the third section (last 13 questions) was multiple-choice questions to determine the acquaintance (awareness and attitude) about DI among health workers, here the evaluation was done based on the responses given by the participants. However, no question on the source of their knowledge of implantology was included and, therefore, it was assumed that the Internet, journals, televisions, continuous education programs, and other personal efforts were the source of their knowledge.

Inclusion criteria, each participant should have finished undergraduate studies of their respective branch, must have completed 6–8 months in the same job (this is done to ensure that the participant is well versed with the job location, environment, and various treatment options available in his/her clinic), and exclusion criteria participants outside the Aseer region.

Statistical analysis

The scores were calculated based on the responses given by the participants. The individual scores were summed up to get a total score. A principle investigator analyzed all returned questionnaires. A database was constructed using the Microsoft excel (Microsoft, Redmond, WA) and imported into the Statistical Package for Social Sciences (SPSS) version 20 (Chicago, Illinois, USA) for statistical analysis. Chi-square tests were used to compare the responses of participants for each question in regards to the response options. A P value <0.05 was considered statistically significant. The inferences so obtained was used to prepare the guideline for the program of study needed to increase the knowledge about DI treatment and its benefits among health workers, so that the right kind of information can be provided to the patients and community related to this superior treatment option of replacing missing teeth.

Results

On the basis of the returned questionnaires, the overall response rate was 89%. Participants include – 190 of dental practitioners, 90 medical practitioners, and other auxiliary staff includes nurses, dental laboratory staff, medical laboratory staff, and health attendants [Figure 1]. The return forms were of mostly male responders 72.5% in comparison to female 27.5%, Table 1 summarizes the demographic data of the sample.

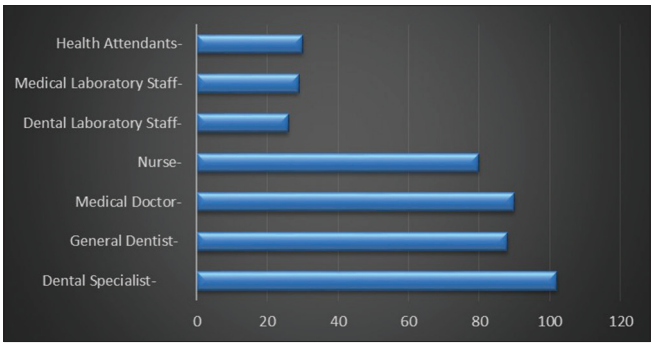

Figure 1: Distribution of health workers included in the study

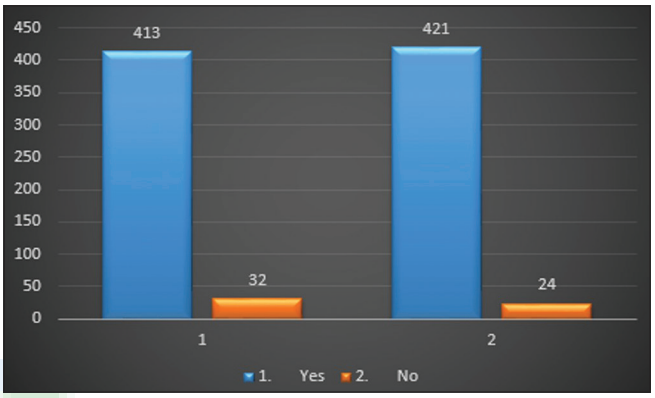

Figure 2: Importance of oral hygiene

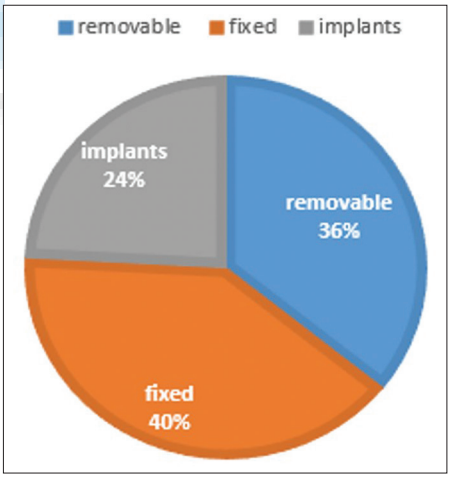

Figure 3: Treatment options to replace missing teeth

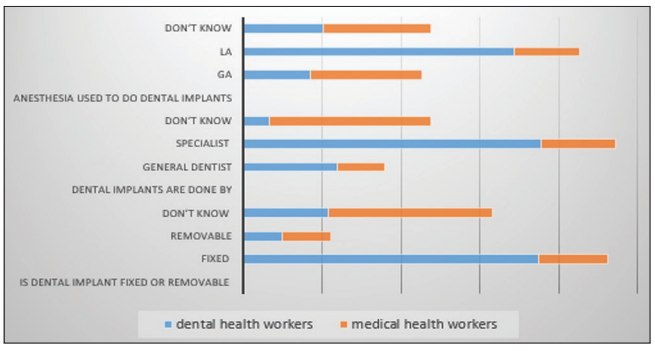

Figure 4: Awareness about dental implants

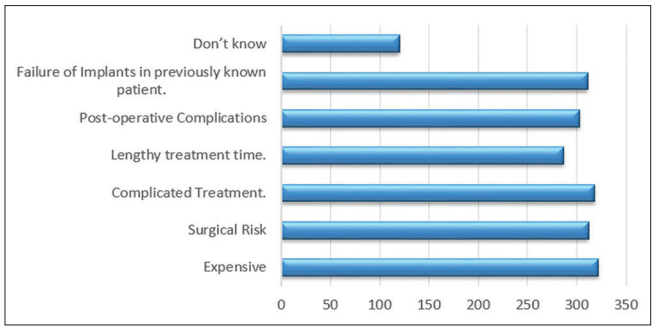

Figure 5: Reasons for not recommending dental implants

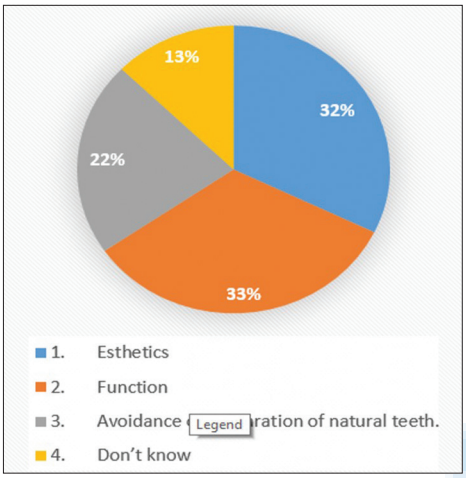

Figure 6: Benefits of dental implants

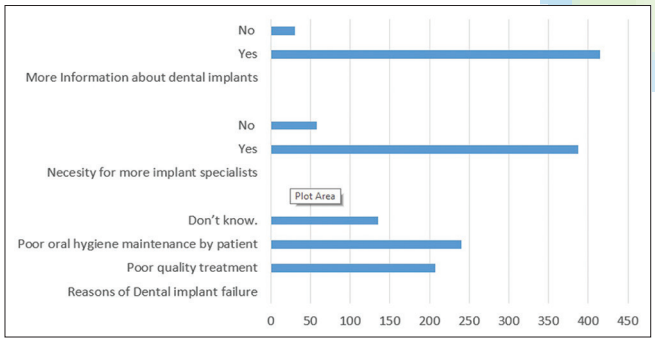

Figure 7: Understanding of dental implants

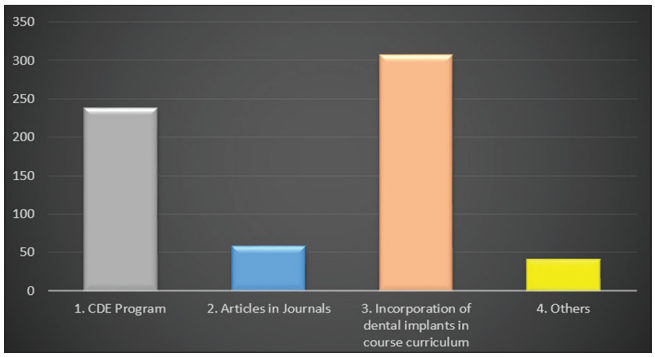

Figure 8: Improvement in knowledge about dental implants

Table 1: Demographic structure of the sample

Job Location	*n*
Government sector	285
Private sector	160
Total	445
Gender	
Male	323
Female	122
Total	445
Occupation	
Dental Specialist	102
General Dentist	88
Medical Doctor	90
Nurse	80
Dental Laboratory Staff	26
Medical Laboratory Staff	29
Health Attendants	30
Total	445
Nature of Job (Only for first 3 categories)	
Only academics	127
Only clinical	95
Both	58
Total	280

Table 2: Association between the awareness toward dental implants among health workers (dental staff and medical staff)

	Dental health workers	Medical health workers
Is dental implant fixed or removable		
Fixed	187	44
Removable	25	31
Do not know	54	104
	χ^2=91.476	
	Df=2	
	P>0.05	
Dental implants are done by		
General dentist	60	30
Specialist	189	47
Do not know	17	102
	χ^2=144.679	
	Df=2	
	P>0.05	
Anesthesia used to do dental implants		
GA	43	70
LA	172	41
Do not know	51	68
	χ^2=75.317	
	Df=2	
	P>0.05	

Table 3: Association between the attitude of health workers (dental staff and medical staff) toward the dental implants

	Dental health workers	Medical health workers
Recommendation of dental implants to patients		
Yes	116	95
No	71	35
Not sure	79	49
	χ^2=4.5112	
	Df=2	
	P>0.05	
Willing to get dental implant done		
Yes	152	95
No	69	59
Not sure	45	25
	χ^2=2.7453	
	Df=2	
	P>0.05	

Discussion

Various clinical and laboratory studies have been conducted following the evolution of DI and have confirmed the efficacy of implant therapy.[11-15] Currently, DI are largely accepted as an important prosthetic treatment option for dentulous or edentulous jaw.[17,18] Studies have been conducted for determining the attitude, knowledge, and acceptance of DI treatment in patients and dentists, but very limited studies had been published till now to judge the DI in entire health care workers. On screening the PUBMED data base regarding the studies about attitude, knowledge, and acceptance of DI treatment in health care workers, only three closely related studies were found and no study was found in our area of concern. Thus, this study was of great importance as it helped in assessing the acquaintance of DI as a treatment option among entire health workers and also it recommended the sections of DI information which needs to be impressed to health workers, so they can guide the patients in a proper and correct manner. The importance of this study was more established by the results of Akagawa *et al.* (1988) study, in which they stated that most of the dentists do not provide >20% of the information about DI.[32] Around 82% of the dental patients interviewed in this study were willing to gain more information about DI, in addition more than three-fourth of them wished to have their dentists as the primary source of such information followed by the Internet. This indicates the actual prerequisite of precise realistic education about DI, especially dentist along with entire health workers so that the patients can develop confidence in them and best treatment can be rendered.

The demographic data of the present study showed more of male respondent which is in contrast to the study in Iran where Taghizadeh *et al.* (2008) evaluated the knowledge, attitude, and practice of Tabriz's school health workers about oral and dental health and found female respondents in the majority.[33] This indicated that males are coming up more in the health sector work in our area of concern and there is a need for more female health workers in this area.

General Understanding Regarding Dental Implants

Questions related to oral hygiene shows that >90% participants recognize its importance. About 82% participants know various treatment options available to replace the missing teeth, but in that DI as an option scores just 24% compared to 76% of removable and fixed dental prosthesis together [Figures 2 and 3]. All health workers should understand that although initially DI were introduced to improve complete dentures,[34,35] but now its use has been extended as an implant hybrid prosthesis and also for the replacement of single tooth and multiple teeth. It is also used in the palliative care following ablative surgery of the mandible and maxilla.[1,2]

Awareness Toward Dental Implants

More than 75% of the participants were aware of DI and almost 65% know in detail or at least understand the difference between the FPD RPD, and DI. Even though there was a high level of awareness of DI, only 54% of those questioned correctly answered that DI is placed in or take anchorage from the jawbone, while 5–10% thought that it is placed in the gingiva/gums or teeth but a significant percentage of respondents 34% did not know where the DI are placed, which reveals incomplete or incorrect information about DI in spite of being aware of this treatment option. The question regarding the placement of DI in completely edentulous patient, 224 out of 445 said "Yes," while 61 and 160 said "No" and "Do not Know," respectively. Normally participants understand the fixed nature of DI but there was a doubt about the type of anesthesia used while placing DI and most of them thought that DI are only placed by a specialist. On analyzing the data it was revealed that mostly medical health workers were lacking in information about DI. This was ascertained by determining the association between the DI awareness and health workers (dental staff and medical staff), Chi-square test was performed. The calculated value of χ^2 for various degree of freedom (df) at 5% level of significance was found to be statistically significant (*P* value <0.0001) indicating that dental health care workers were more aware compared to

medical. Thus, there is compounding need to enrich the knowledge of medical sector health workers regarding DI [Figure 4 and Table 2].

Attitude Toward Dental Implants

Regarding the attitude toward DI, 45% were recommending DI for patients and 55% were enthusiastic to get treated with DI if needed. But a significant number, nearly 23–25% were neither recommending to patients nor willing to get treated with DI and almost identical number were not sure about recommending or getting treated as well. This may be due to less training, less knowledge, and ambiguity about the procedure of dental implantology among the health workers. This revealed that there is an immediate need to enhance the knowledge about DI procedure. Because in health care centers, where the dentists are not properly trained for DI or patients are not able to afford the cost for DI, generally do not explain appropriately on DI as a treatment choice. They opt for conventional simple economic prosthetic treatment options (FPD, RPD, and CD) which are less tasking and less challenging compared to DI.

While considering the association between the attitude of health workers (dental staff and medical staff) toward the DI (recommendation and getting it done for themselves), the χ^2 calculated value for degree of freedom (df) 2 at 5% level of significance was 4.51 and 2.74, it was statistically not significant as P value >0.05. This shows that health care workers were recommending and willing to get DI for themselves. But still there was a group of health workers who were hesitant to DI [Table 3]. The reason may be many, either dentist themselves do not do implants or other health workers have less knowledge about it. To determine this, the participants were asked about the reasons for not recommending DI. High cost was the major factor inhibiting the explored subjects from recommending DI followed by complicated treatment, surgical risk, failure of implants in previously known patients, and others. Figure 5 indicates percentage of each reason.

Understanding Benefits and Failures of Dental Implants

The aforementioned works and proven research had shown that the DI supported prostheses are functionally efficient, esthetically satisfactory conservative, and have good prognosis with a long-term success rate in uncomplicated cases. Ultimately, it improves the quality of life and self-confidence of the patient.[21,36-38] In the present study, about 33% of those questioned believe function is the most important benefit of DI followed by esthetics 32%, avoidance of preparation of teeth 22%, and 13% do not know about its benefits [Figure 6]. This is in association with the studies of Giedre *et al.* (2009),[39] Chowdhary *et al.* (2010),[30] where they stated that DI improved oral functions in edentulous patients and received a wide acceptability due to its associated benefits. Conventional type dentures and bridges can be easily incorporated with implants in wide edentulous jaws and this leads to improved and sustained oral health.

Among the surveyed participants, nearly 53% believed poor oral hygiene maintenance by patient as a main cause of DI failure and 85% suggested that there is a need for more dental implantologist [Figure 7]. It was very positive attitude of health workers both in dental and medical side that almost 90% were willing to gain more knowledge regarding the DI so that they can use it in their respective field and educate the patients. This was in accordance to the study done by Chowdhary *et al.*,[30] which also reported willingness of the clinicians to gain more knowledge regarding DI.

Recommendation

This study showed that although most of the dental and medical practitioners have knowledge about DI and positive attitude, but still they are lacking in complete information. As a result DI therapy is often misunderstood by the health workers itself, and being the principal source in guiding patients for dental treatment, the key information about DI is missing at the community level. Therefore, it is essential to enhance the education level of health care community workers regarding the DI so that this treatment can be accepted and indorsed by most of them. This will improve their quality of life as well as of patients. In the present study, the sampled population believed that the knowledge regarding DI could be improved by incorporating the DI in course curriculum of all health sciences, followed by the Continuing Dental Education (CDE) Program and hands-on courses, articles in journals, and other means [Figure 8]. We are recommending the incorporation of basic DI topics in all syllabuses of health care workers with obligatory assessment of acquaintance before employment. All heath care centers must have a distinct DI help desk for guiding and educating the patients along with health workers. By this way, we can improve the oral health and ultimately general health with quality of life because healthy mouth is the mirror of healthy body.

Limitations

As this study was carried out in a limited area and including limited health workers in that zone, further detailed survey including more number of questionnaires

and more sample size should be carried out in a wide zone to generalize the results.

Conclusion

Regardless whether the health workers are dealing with implants or not, it is necessary to have basic information about it, because patient most of the time takes opinion from them while selecting the treatment for missing teeth. In this study the acquaintance (knowledge, awareness, and attitude) of DI as a treatment for edentulous state were assessed among health workers and comparison was done between medical and dental health workers. It was revealed that even though in general health workers are aware of DI, but complete and proper information is lacking but dental health workers have more knowledge than the medical workers, and the difference was found to be statistically significant. This indicates the need for more education to health care workers about DI so that it can help in eliminating any negative image of the DI procedure in patient's mind due to lack of knowledge.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

References

1. Wang H, Shotwell JL, Itose T, Neiva RF. Multidisciplinary treatment approach for enhancement of implant esthetics. Implant Dent 2005;14:21-9.
2. Tsirlis A. Clinical evaluation of immediate loaded upper anterior single implants. Implant Dent 2005;14:94-100.
3. Schiroli G. Immediate tooth extraction, placement of a tapered screw-vent implant, and provisionalization in the esthetic zone: A case report. Implant Dent 2003;12:123-30.
4. Peled M, Ardekian L, Tagger-Green N, Gutmacher Z, Machtei EE. Dental implants in patients with type 2 diabetes mellitus: A clinical study. Implant Dent 2003;12:116-20.
5. Samana Y. Fixed bonded prosthodontics: A 10-year follow-up. Part II. Clinical assessment. Int J Periodontics Restorative Dent 1996;16:52-9.
6. Corrente G, Vergnano L, Re S, Abundo R. Resin-bonded fixed partial dentures and splints in periodontally compromised patients: A 10 year follow-up. Int J Periodontics Restorative Dent 2000;20:628-36.
7. Buhler H. Survival rates of hemisected teeth: An attempt to compare them with survival rates of alloplastic implants. Int J Periodontics Restorative Dent 1994;14:536-43.
8. Peak JD. The success of endodontic treatment in general dental practice: A retrospective clinical and radiographic study. Prim Dent Care 1994;1:9-13.
9. August DS. Long-term postsurgical results on teeth with periapical radiolucencies. J Endod 1996;22:380-3.
10. Allen RK, Newton CW, Brown CE Jr. A statistical analysis of surgical and nonsurgical endodontic retreatment cases. J Endod 1989;15:261-6.
11. Adell R, Lekholm U, Rockler B, Branemark PI. A 15-year study of osseointegrated implants in the treatment of the edentulous jaw. Int J Oral Surg 1981;10:387-416.
12. Adell R, Eriksson B, Lekholm U, Branemark PI, Jemt T. Long-term follow-up study of osseointegrated implants in the treatment of totally edentulous jaws. Int J Oral Maxillofac Implants 1990;5:347-59.
13. Albrektsson T. A multicenter report on osseointegrated oral implants. J Prosthet Dent 1988;60:75-84.
14. Albrektsson T, Zarb G, Worthington P, Eriksson AR. The long-term efficacy of currently used dental implants: A review and proposed criteria of success. Int J Oral Maxillofac Implants 1986;1:11-25.
15. Albrektsson T, Blomberg S, Branemark A, Carlsson GE. Edentulousness - an oral handicap. Patient reactions to treatment with jawbone-anchored prostheses. J Oral Rehabil 1987;14:503-11.
16. Albrektsson T, Dahl E, Enbom L, Engevall S, Engquist B, Eriksson AR, *et al.* Osseointegrated oral implants. A Swedish multicenter study of 8139 consecutively inserted Nobelpharma implants. J Periodontol 1988;59:287-96.
17. Naert I, Koutsikakis G, Duyck J, Quirynen M, Jacobs R, van Steenberghe D. Biologic outcome of implant-supported restorations in the treatment of partial edentulism. Part I: A longitudinal clinical evaluation. Clin Oral Implants Res 2002;13:381-9.
18. Naert I, Koutsikakis G, Quirynen M, Duyck J, van Steenberghe D, Jacobs R. Biologic outcome of implant-supported restorations in the treatment of partial edentulism. Part 2: A longitudinal radiographic study. Clin. Oral Implants Res 2002;13:390-5.
19. 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 Impl Res 2011;22:223-9.
20. Grogono AL, Lancaster DM, Finger IM. Dental implants: A survey of patients' attitudes. J Prosthet Dent 1989;62:573-6.
21. Al-Hamdan KS, Meshrif H. Patients satisfaction with dental implants in Riyadh, Saudi Arabia. Saudi Dent J 2007;19:91-6.
22. 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.
23. Narby B, Kronstrom M, Soderfelt B, Palmqvist S. Changes in attitudes toward desire for implant treatment: A longitudinal study of a middleaged and older Sweden population. Int J Prosthodont 2008;21:481-5.
24. Brunski JB. *In vivo* bone response to biomechanical loading at the bone/dental implant interface. Adv Dent Res 1999;13:99-119.
25. 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.
26. Ozçakir Tomruk C, Ozkurt-Kayahan Z, Sençift K. Patients' knowledge and awareness of dental implants in a Turkish subpopulation. J Adv Prosthodont 2014;6:133-7.
27. Yao J, Tang H, Gao XL, McGrath C, Mattheos N. Patients' expectations to dental implant: A systematic review of the literature. Health Qual Life Outcomes 2014;12:153.
28. Sahoo S, Suvarna SR, Sethi K, Kumar P. Awareness and need of dental implant therapy as pertinent to Indian situation: An overview. Int J Med Public Health 2013;3:124-5.
29. Pragati K, Mayank K. Awareness of dental implants as a treatment modality amongst people residing in Jaipur (Rajasthan). J Clin Diagn Res 2010;4:3622-6.

30. 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.
31. Zimmer CM, Zimmer WM, Williams J, Liesener J. Public awareness and acceptance of dental implants. Int J Oral Maxillofac Implants 1992;7:228-32.
32. Akagawa Y, Rachi Y, Matsumoto T, Tsuru H. Attitudes of removable denture patients toward dental implants. J Prosthet Dent 1988;60:362-4.
33. Taghizadeh G, Jafari A, Poorgholi N, Iranizadeh H. Evaluation of knowledge, attitude and practice of Tabriz's school health workers about oral and dental health. Jmd 2009;22:132-138.
34. Dhanrajani PJ, Al-Rafee MA. Single-tooth implant restorations: A retrospective study. Implant Dent 2005;14:125-30.
35. Al-Shammari KF, Al-Khabbaz AK, Akar MH, Al-Ansari JM, Wang HL. Implant recommendation as a replacement option after tooth loss for periodontal reasons. Implant Dent 2006;15:104-10.
36. Prashanti E, Mohan M. Awareness of dental implants among undergraduate dental students at Mangalore, India. Indian J Appl Res 2013;3:1-2.
37. Saurabh C, Alfarsi MA, Chaturvedi M, Kaushik P, Sunil Kumar V. Immediate implant with simultaneous ridge augmentation. J Dent Probl Solut 2017;4:036-9.
38. Saeidi Pour R, Zuhr O, Hürzeler M, Prandtner O, Rafael CF. Clinical benefits of the immediate implant socket shield technique. J Esthet Restor Dent 2017;29:93-101.
39. Giedre BF, Wellington MM, Katia FG, Hugo NF. Effects of mandibular fixed implant supported prostheses on masticatory and swallowing functions in completely edentulous elderly individuals. Int J Oral Maxillofac Implants 2009;24:576-82.

Appendix 1

Questionnaire (Tick appropriate)

Job location _____

Government sector _____

Private sector _____

Sex _____

Male _____ Female _____

Occupation _____

Dental specialist (Please mention branch –)_____

General dentist _____

Medical doctor _____

Nurse _____

Dental therapists _____

Dental laboratory staff _____

Medical laboratory staff _____

Health attendants _____

Questions-

Q1. Do you know oral hygiene is important for good general health?

1. Yes
2. No

Q2. Do you know that improper oral hygiene may result in tooth loss?

1. Yes
2. No

Q3. Do you know various treatment options to replace missing teeth?

1. Yes
2. No

If yes – please mention –

1. _____
2. _____
3. _____

Q4 Are you aware of dental implants?

1. Yes
2. No

Q5. Do you know the difference between dental implants, fixed prosthesis, and removable prosthesis?

1. Yes
2. No
3. Little

Q6. Dental implants take anchorage from

1. Teeth
2. Bone
3. Gum
4. Do not know

Q7. Can dental implants be used in patients without any teeth?
1. Yes
2. No

Q8. Is dental implant fixed or removable at patients' will?
1. Fixed
2. Removable

Q9. Dental implants are done by
1. General dentist
2. Specialist

Q10. Type of anesthesia used to do dental implants is-
1. General
2. Local

Q11. Do you recommend dental implants for patients?
1. Yes
2. No
3. Not sure

Q12. Will you get dental implant done for yourself (if needed)?
1. Yes
2. No
3. Not sure

Q13.What do you think benefits of dental implants?
1. Esthetics
2. Function
3. Avoidance of preparation of natural teeth

Q.14. Reasons for not recommending dental implants
1. Expensive
2. Surgical risk
3. Complicated treatment
4. Lengthy treatment time
5. Post-operative complications
6. Failure of implants in previously known patient

Q.15 What do you think are cause of dental implant failure?
1. Poor-quality treatment
2. Poor oral hygiene maintenance by patient
3. Do not know

Q.16 Do you think there is a need for more implant specialists?
1. Yes
2. No

Q.17 Do you like to know more about dental implants?
1. Yes
2. No

Q.18 Knowledge about dental implants can be increased by
1. CDE Program
2. Articles in journals
3. Incorporation of dental implants in course curriculum
4. Others