

**Perception and acceptance of dental implant treatment among dental practitioners in Ambala district, Haryana: A pilot study**

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**Abstract**

**Background:** The reliable success and durability of dental implant procedures have contributed to their growing popularity across the globe. It's essential for dental professionals to keep abreast of their knowledge and abilities in dental implants to ensure they're competent in offering this treatment. Therefore, a study was conducted to determine the acceptance of dental implant treatment among the dental practitioners in Ambala District and how they acquire and integrate the trends of implant dentistry into their daily practice.

**Material & Method:** A specially crafted questionnaire with 14 questions was used to gather data on the knowledge and perspectives of dental practitioners concerning implantology. This questionnaire sought general background information, specific inquiries about dental implants, and the dentist's readiness to perform implant treatments.

**Results:** In the current survey, 80 questionnaires were distributed, with a 66.25% response rate. Among the

respondents, 88.68% provided dental implants as a treatment option, and 58% using OPG as a diagnostic tool for implant treatment. When it comes to the main source of training in implants, 36% were taught by short courses offered by dentists, 28% by commercial companies, 21% via self-learning while 11% from college/ post graduation. It was noted that 46.75% of the dentists used Osstem implants. Additionally, 24% of the practitioners chose their implant system due to the simplicity of surgical and prosthesis procedures, 18% for technical support and stock availability, and 16% based on colleague recommendations.

**Conclusion:** The number of dentists offering implant treatments is on an upward trend, with many seeking additional education from courses provided by commercial entities or private practitioners to advance their expertise. Notably, general dental practitioners (GDPs) are increasingly performing dental implant treatments, and it's anticipated that this will become a prominent feature of modern general dental practice

soon. The surveyed dentists showed a preference for the Osstem Implant system, underscoring the power of word-of-mouth recommendations in the field. Further research is needed to delve into the scope of implant dentistry practice and the various challenges dentists encounter in this specialized area.

**Keywords:** General dental practitioners, Questionnaire, Implant Dentistry, Survey

## **Introduction**

In the world of restorative dentistry, dental implants have become a mainstream treatment that can provide permanent tooth replacement. As a multidisciplinary field, implant dentistry combines proficiency from oral surgery, periodontics, restorative dentistry, and prosthetic dentistry.<sup>[1]</sup> There have been significant debates regarding the merits of implant dentistry as a separate specialty or subspecialty.<sup>[2]</sup> The number of dental professionals practicing implant dentistry has increased dramatically with more people becoming aware of the benefits of dental implants relating to better aesthetics and function.<sup>[3]</sup> It is ultimately the dentist's knowledge and attitude toward a treatment modality that influences treatment decisions and how oral health care is delivered.<sup>[3]</sup> Dental practitioners must continuously update their knowledge and skills regarding dental implants to demonstrate competence in providing dental implant treatment.<sup>[4]</sup> There is little literature available about the current practices of implant dentistry in Ambala District, Haryana.

Thus, this study was planned out to determine the acceptance of dental implant treatment among the dental practitioners in Ambala District, Haryana and how they acquire and integrate the trends of implant dentistry into their daily practice.

## **Material & Method**

An institutional ethical committee approved this study to be conducted in 2023 as a survey of dental practitioners in Ambala district, Haryana (Project No.: IEC-2642, Dated: 20/05/2023). To obtain information on dental practitioners' knowledge and attitudes about dental implantology, a self-administered questionnaire containing 14 questions was designed [Table-I]. The questionnaire includes general information such as name, age, gender, and address, and questions related to dental implants. The questionnaire was structured to assess a dentist's willingness to provide implant treatment, their qualification, the diagnostic aid they used, their source of training, and the implant system they employed. Dental practitioners received the questionnaire personally by hand and through a Google form. Confidentiality was assured to all participants who agreed to participate in the study and a well-informed written consent was obtained.

This questionnaire was developed through a systematic process based on a literature review. Accordingly, this questionnaire was slightly modified, but mainly in line with other questionnaires already published in the literature. To determine whether the questionnaire was valid and reliable, it was tested on ten dental practitioners representing the target population. In addition, dental practitioners were tasked with filling out the questionnaire and identifying any potential problems such as duplicate, confusing, or double-leading questions.

## **Results**

The questionnaire was distributed to more than 80 private dental practitioners, 53 of whom responded. There were 67.92% graduate and 32.08 % postgraduate dentists in the survey, and amongst whom 88.68 % offered dental implants as a treatment modality [Table-II]. Approximately 46.81% of dentists performed implant procedure themselves, 34.04% of clinics invited

consulting specialists, and 19.15% of dentists undertook both [Table- II]. In all private practices offering implants, both surgical and prosthetic treatment options were available [Table- II]. On average, 74.34% of dentists placed about 1-25 implants per quarter, 14.89% placed 25-50 implants, and 12.77% placed more than 50 implants per quarter [Table- II]. The OPG accounted for 58% of the most used diagnostic aids for implant surgeries, followed by CBCT at 32%, and IOPA at 10% [Graph-1]. Regarding primary source of training in implant dentistry 36% received their training through short courses provided by private practitioner, 28% from short courses offered by commercial companies, 21% from self-learning, 11% from post-graduation/ college, and 4% from short courses offered by universities [Graph-2]. Regarding the dental implant systems used by dental practitioners, 46.75% employed Osstem, 14.29% Dentium, 11.69% Adin, 10.39% Noris, 9.09% Nobel Biocare, and others included 7.79% [Graph-3]. Furthermore, about 24% of practitioners stated that the reason for their preferred implant system was the ease of surgery and prosthesis steps, 18% technical support and availability of stock, 16% on recommendations of colleagues, 15% for economical reasons, 13% based on of research/scientific evidence-based documents, 12% due to less failures, and 2% recommendations obtained in constant courses from commercial companies [Graph-4].

### **Discussion**

In the field of oral rehabilitation, dental implants have become a key component of clinical practice. The use of dental implants has increased over the past mainly due to increased awareness among dentists and patients.<sup>[5]</sup> The purpose of this study was to determine the trends in implant dentistry among private dental practitioners in Ambala District, Haryana. One of the major advantages of this study was the ability to identify dental implant

system selection criteria among dentists across Ambala District, Haryana.

In this survey, 80 questionnaires were distributed among participants, yielding a response rate of 66.25%. Most dentists in this study were general practitioners, highlighting their growing involvement in implant dentistry. A survey of 312 Israeli dentists by Klugman et al.<sup>[6]</sup> revealed that only 97 dentists used implants in their practice, with merely 40% of them working on both surgical and restorative phases. Contrary to this finding, present study revealed that dentists prefer to perform both implant surgery and prosthetic treatment themselves. The survey revealed that approximately 64.15% of dentists who performed implant dentistry placed or restored about 1-25 implants per quarter of a year.

Among general practitioners in the current study, OPG emerged as the preferred diagnostic tool for implant procedures, followed by CBCT and IOPA. These results align with those of Rabi H et al.<sup>[7]</sup> but stand in contrast to Ramakrishnan P et al.<sup>[8]</sup>, and Majid LA et al.<sup>[9]</sup>, who found that dentists prescribed CBCT more often than OPG for implant procedures. In present study, a majority of practitioners reported receiving implant dentistry training through short courses offered by private practitioners (33.33%) and commercial companies (25.64%). These findings align with Shah R et al.<sup>[10]</sup> study on Gujarat dentists, which found that 36.73% of participants learned implant dentistry through such courses. Recently, implant courses sponsored by companies or by experienced dental practitioners have become increasingly common.

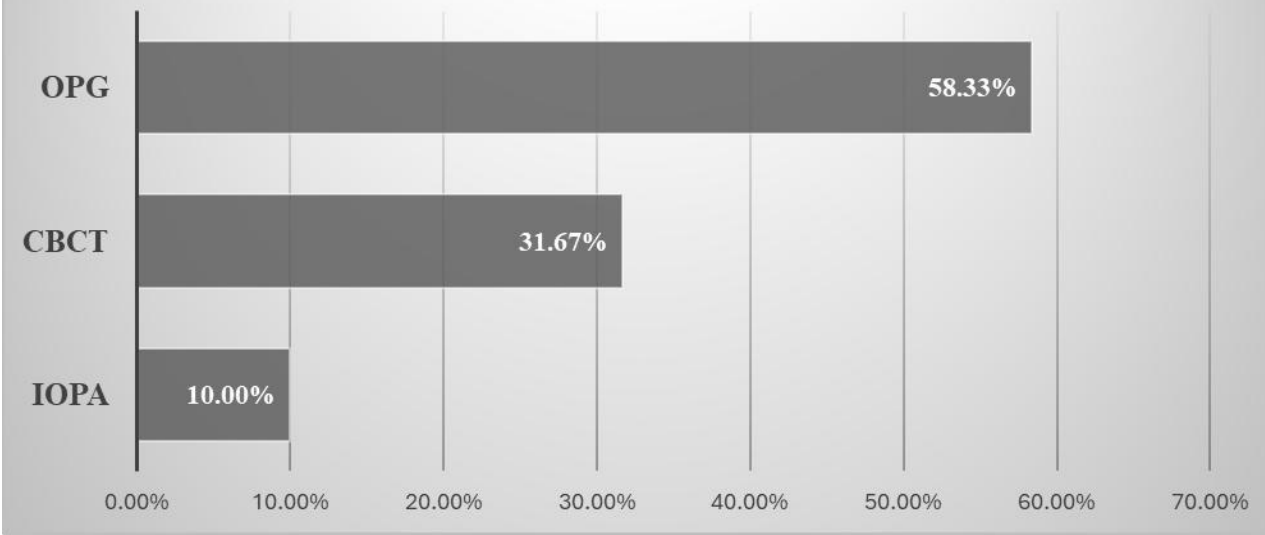
Table 1: Questionnaire		
1) Name:	2) Age:	
3) Sex:	4) Address:	
5) What is your qualification?		
(a) BDS	(b) MDS	(c) Ph.D.
6) Do you offer Implant treatment to the patient in your clinic?		
(a) Yes	(b) No	
7) If yes, who performs the Implant treatment in your clinic?		
(a) Self	(b) Consultant	(c) Both
8) What part of the treatment do you offer to the patient?		
(a) Prosthetic part	(b) Surgical part	(c) Both
9) How many Implants do you place/restore on average per quarter (every 3 months)?		
(a) 1-25	(b) 25-30	(c) Above 50
10) What diagnostic aid do you use before the Implant procedure?		
(a) IOPA	(b) OPG	
(b) CBCT	(d) None of the above	
11) What was your major source of training in Implant Dentistry?		
(a) Post-graduation/ college		
(b) Courses organized by Commercial Companies		
(c) Short courses offered by Universities		
(d) Short courses offered by Private Practitioners		
(e) Self-learning		
12) What is the Dental Implant system usually employed by you?		
(a) Nobel biocare		
(b) Osstem		
(c) Adin		
(d) Norris		
(e) Dentium		
(f) Any others: _____		
13) What is the reason for choosing your Dental Implant system?		
(a) Economical for patient		
(b) Simplicity of surgical and prosthetic steps		
(c) Research/ scientific evidence-based documents		
(d) Recommendations by colleagues		

(e) Technical support and availability of stock
(f) Recommendations obtained in courses sponsored by commercial companies
(g) Less failure observed
14) Are you satisfied with your Dental Implant system?
(a) Yes (b) No

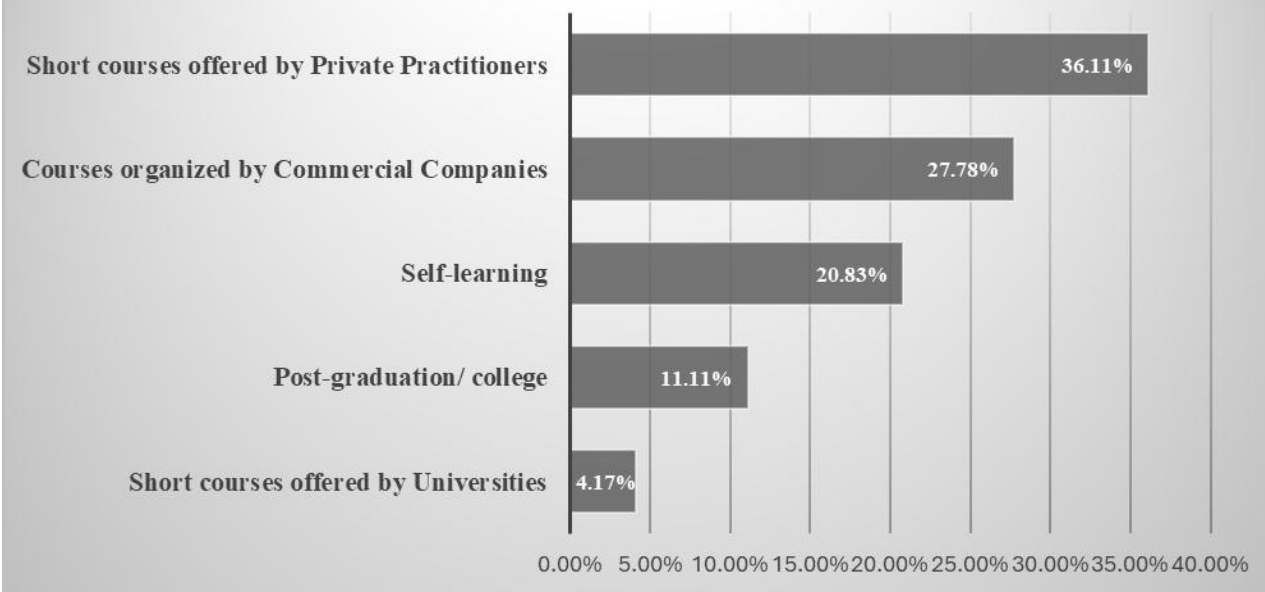
Table 2: Demographic Data

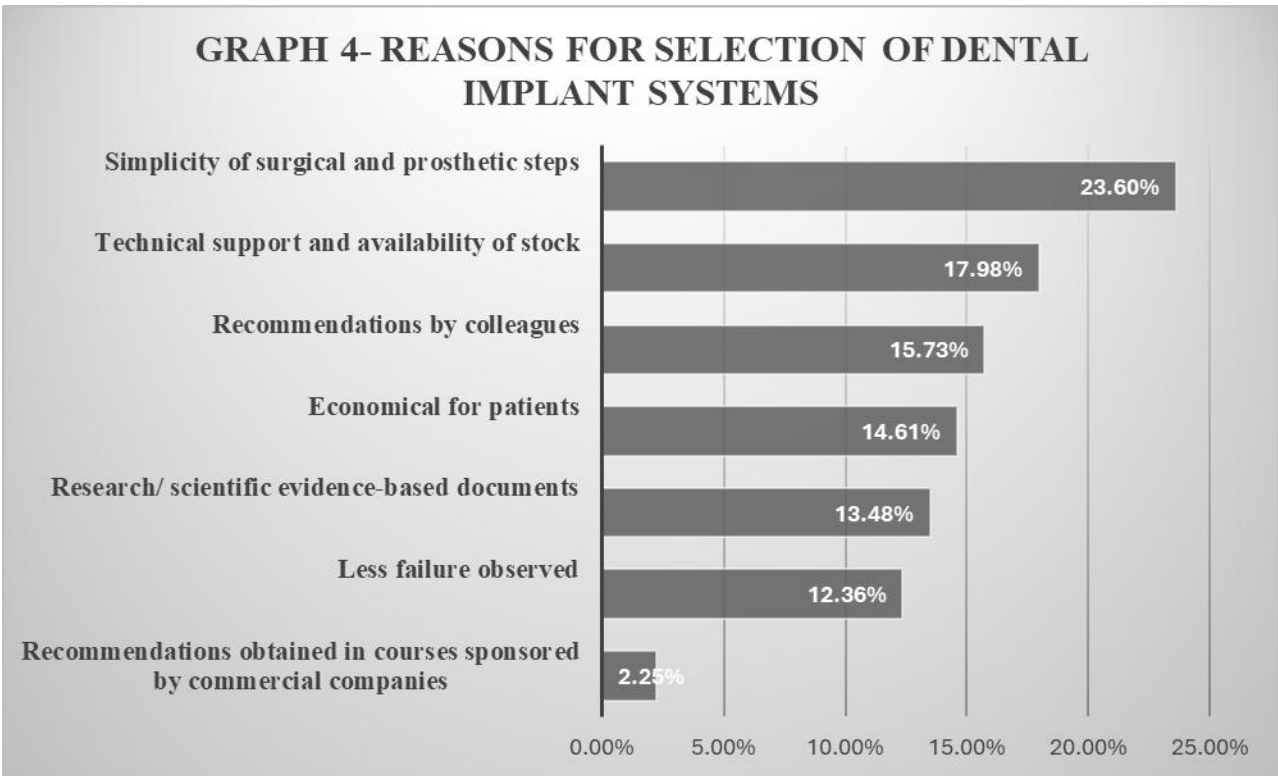
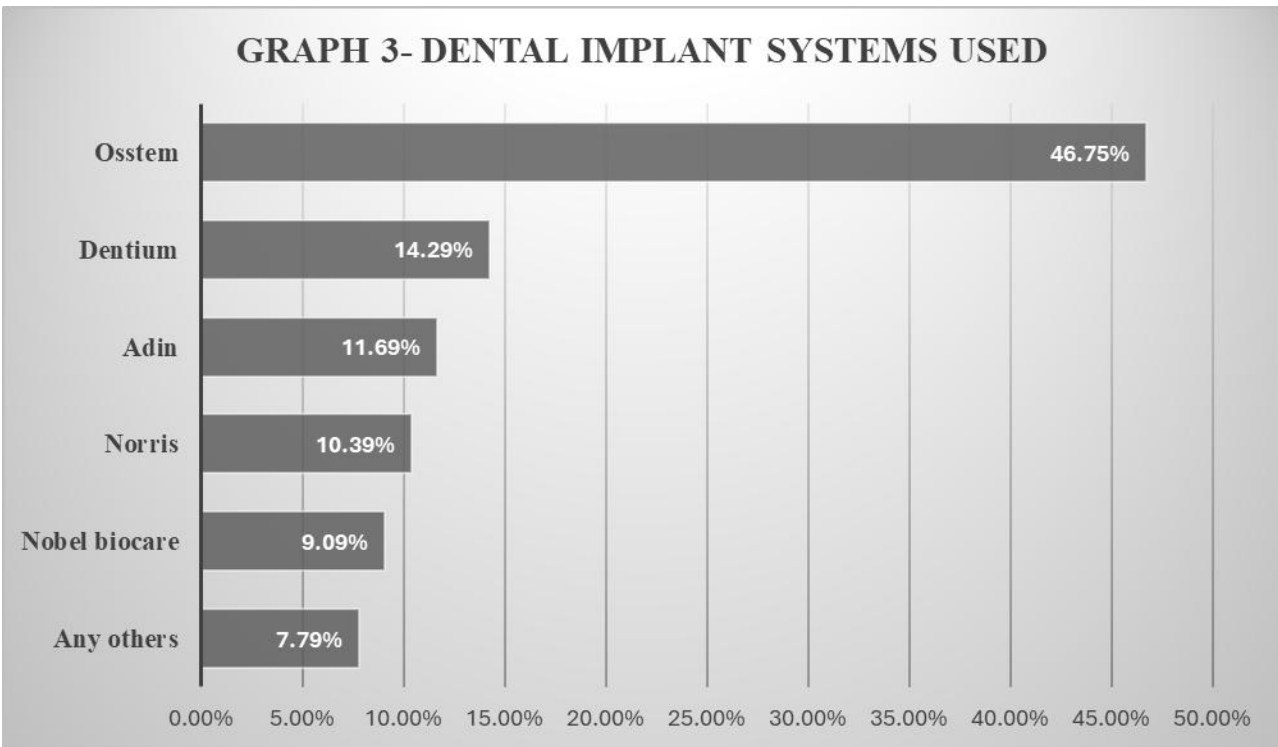
Gender	
Male	56.60%
Female	43.40%
What is your qualification?	
BDS	67.92%
MDS	32.08%
Do you offer Implant treatment to the patients in your clinic?	
Yes	88.68%
No	11.32%
If yes, who performs the Implant Treatment in your clinic	
Self	46.81%
Consultant	34.04%
Both	19.15%
How many implants do you place/restore on average per quarter?	
1-25	72.34%
25-50	14.89%
Above 50	12.77%
What part of the treatment do you offer to the patient?	
Prosthetic Part	-
Surgical Part	-
Both	100%

**GRAPH 1- DIAGNOSTIC AIDS USED BEFORE IMPLANT PLACEMENT**



**GRAPH 2- SOURCE OF IMPLANT TRAINING**





This highlights the importance of incorporating fundamental knowledge and skills related to implant dentistry at the undergraduate level to advance this area of dentistry which will ultimately benefit the patients.

The varying popularity of implant systems may be attributed to factors such as cost, ease of performing surgical and prosthetic phases, and implant availability. Additionally, the marketing strategies used by companies, such as conducting implant courses, could create a product bias for Private Dental Practitioners attending these courses. In current study, Osstem emerged as the most preferred dental implant system among participants, followed by Dentium, Adin, and others. This is in contrast to the study conducted by Shah R et al.<sup>[10]</sup> in Gujarat, where Nobel Biocare was the most used implant system (22.44%). An intriguing finding in a Philip Chi Nong et al.<sup>[11]</sup>, Hong Kong survey revealed that all respondents participating in implant dentistry were brand allegiant with only around 10% using more than one implant system. However, the current study discovered that practitioners, despite their brand allegiance, prefer utilizing multiple implant systems. This may suggest that each system offers certain advantages in specific clinical scenarios. Factors such as implant location, immediate loading, primary stability achievement, monetary considerations, and others may influence clinical decisions. In the present study, in response to practitioners' preferences for implant systems, the primary reason mentioned by the dentists was the ease of surgical and prosthetic procedures, followed by technical support, stock availability, and recommendations from other dentists.<sup>[5]</sup>

### Conclusion

Several observations can be made within the confines of this survey. The number of dental practitioners offering dental implants to their patients continues to rise, with

many attending courses on implant dentistry sponsored by commercial companies or private practitioners to enhance their knowledge and skills. General dentists, rather than specialists, are more inclined to perform dental implant procedures. The surveyed dental practitioners showed a preference for the Osstem Implant system, indicating the significance of referral marketing. Most practitioners preferred to handle both the surgical and prosthetic phases of implant dentistry themselves. Given that this survey was conducted on a limited group of individuals and extracted limited information, further studies are necessary to understand the extent of implant dentistry practice and the various challenges faced by dental practitioners in this field.

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