

**A study on the trends of dental implant practice in present scenario among dental practitioners in Nagpur**

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**Type of Publication:** Original Research Article

**Conflicts of Interest:** Nil

**Abstract**

**Objective:** The objective of this survey was to determine the attitude of private dental practitioners toward implant dentistry

**Materials and Methods:** A self-designed Google form, of a closed response format, was sent to 150 private dental clinics of five different regions of Nagpur City. Responses were subjected to descriptive analysis.

**Results:** The results indicated that 95.9% of the surveyed dentists offered implants as a treatment option to their patients, but only 30.6% of surveyed dentists chose to actively practice Implant Dentistry themselves. The remaining PDPs chose to call consultants or refer the patients for the management of such cases.

**Conclusion:** It was concluded that as the number of PDPs doing implants are rising, there is a need to organize continuing dental education programs to create awareness related to various aspects of implant dentistry.

**Keywords:** Implant dentistry, private dental practitioner, Osseo integration, survey

**Introduction**

Dental implants have greatly evolved over the past 20 years. The idea of permanently being able to replace teeth has been a desire of civilizations since the days of the Egyptians.<sup>[1]</sup>

Tooth loss is very common and it can happen as a result of disease and trauma; therefore, the use of dental implants to provide support for replacement of missing teeth has a long and multifaceted history.<sup>[2]</sup> Osseointegration, by definition, is living (newly formed) bone in contact with an implant. Stability of osseointegrated implants may depend on: the percentage of bone-to-implant contact; how the new bone deposited on the implant surface is attached to the surrounding bone; and the bone density (quality) of the surrounding bone.<sup>[3]</sup>

Increasing awareness about dental implants among patients has seen a parallel increase in the private dental practitioners (PDP's) interest of learning Implant dentistry.<sup>[4]</sup> Implant manufacturers have provided implant courses for 20 years. However since the early 1990s, it has changed from industry sponsored courses to experienced dental practitioners conducted courses.<sup>[5]</sup> The aim of this survey was to determine the percentage of PDPs offering implants, source of learning and how they integrate this knowledge into their daily practice.

### Material and Methods

An observational study was conducted among the private dental practitioners in Nagpur to determine the percentage of PDPs offering implants, source of learning and how they integrate this knowledge into their daily practice.

The subjects were recruited from five regions of the city, Central, South, North, East and West region. Google forms were used to complete the data collection. A total of 150 private dental clinics in the city were included in the study. The google form link was sent to the study participants and were requested personally by the investigator to circulate it in their various other professional groups all over the city none of it remained unanswered. The study was approved by the Institutional Ethical Committee.

A pilot study was done on 20 private dental practitioners to know the feasibility, for training and calibration of examiner. These practitioners were asked to give feedback regarding the understanding of questions and the time taken to fill the questionnaire. The feedback stated none of them took more than 10-12 mins and found all questions to be easy. The Kappa value for intra examiner reliability was obtained 0.81. A structured questionnaire was made in English language as all the study participants were acquainted with this language. Questions covered general information such as gender, qualification and year of

qualification of PDPs. Questions went on to assess PDP's willingness to offer implant as a treatment option to their patients, whether they do implant dentistry themselves. Questions also investigated the source from which PDPs gained the knowledge and skill of Implant dentistry. Questions also sought to elicit the most widely used implant system. Data was analyzed using Statistical Package for the Social Sciences version 16.0 manufactured by IBM Corporation –Armonk, New York, US. All the collected data was entered in the Microsoft Office Excel Sheet 2007 version. Descriptive statistics were used to assess the frequency of responses.

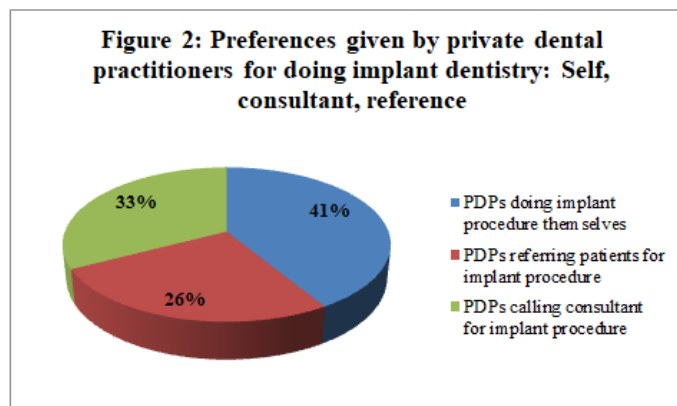
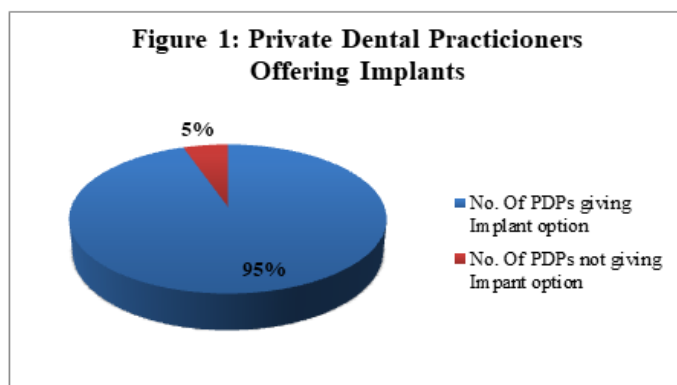
### Results

Table 1: Demographic Details

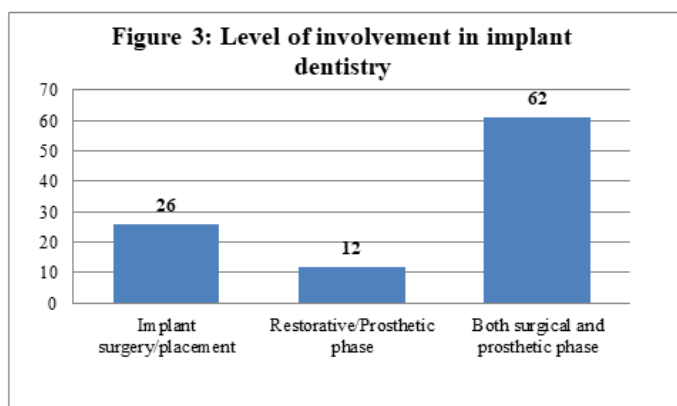
Gender	
Male	98
Female	52
Years Into Private Practice	
0-4 years	48
5-9 years	32
10-14 years	28
15-19 years	24
20 years and above	18
Highest Qualification	
BDS	112
MDS	38
Location Of Private Dental Clinic	
Central	29
North	31
South	33
East	6
West	

The final sample to be analyzed comprised of replies from 98 males and 52 females. Respondents had working

experience over a wide range of years with 112 graduate PDPs and 38 post graduate PDPs respectively. [Table 1]



To assess the importance given to implant dentistry, PDPs were asked if they offered implants as a treatment option to their patients and if so, did they prefer doing implant dentistry themselves. When analyzed as a whole, 95% of PDPs offered implants and 41% preferred doing implant dentistry themselves. The remaining PDPs opted to avail the services of specialist either by calling consultants or by referring their implant patients [Figures 1 and 2].



When asked if practitioners preferred doing implant placement, prosthetic phase or both surgical and prosthetic phase, marked difference was observed in the choices made. Nearly 62% of PDPs preferred doing both surgical and prosthetic phase with 26% opting only implant placement and 12% doing only the prosthetic phase respectively [Figure 3].

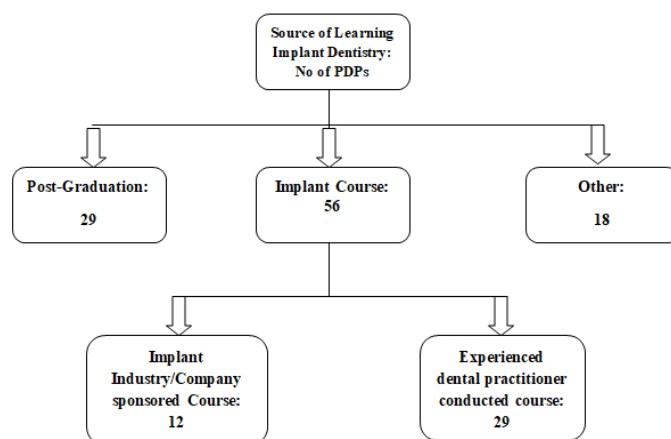
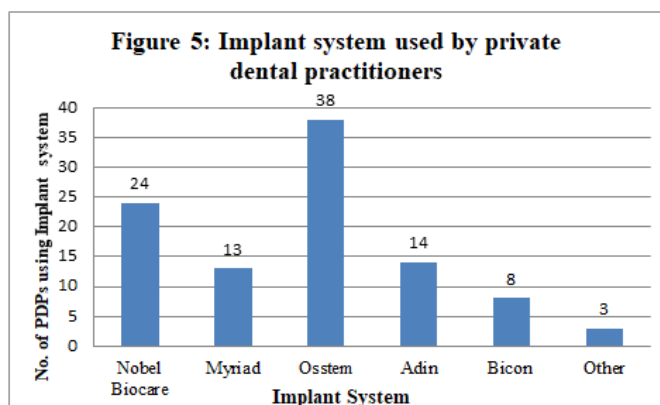


Figure 4: Source of learning implant dentistry

For the source of learning implant dentistry, 56% PDPs had learnt from implant courses, 29% during the post-graduate study and 18% had learnt it from other sources respectively. Nearly 29% PDPs attended implant courses conducted by experienced dental practitioners and 12% attended industry or company sponsored courses [Figure 4]



Participants were asked to mark the various implant systems they were using. Multiple answers were obtained

with Osstem® being the most widely used implant system among 38 % PDPs [Figure 5].

Table 2: Importance given to pre-operative radiograph and surgical guide

	No. of private dental practitioners		
	Not Important	Moderately Important	Very Important
Pre-operative radiograph importance	5	6	89
Surgical guide importance	12	13	75

The questionnaire went on to assess the attitude of PDPs toward the importance of pre-operative radiographs and surgical guides in implant dentistry. Nearly 89% respondents considered pre-operative radiographs to be very important. About 75% considered surgical guides to be very important and 13% considering it moderately important [Table 2].

After consultation with a statistician it was decided that descriptive analysis was most informative and the statistical tests were not indicated for result analysis in this study.

## Discussion

An acceptable, usable response rate of 100% was achieved. Tan and Burke<sup>[6]</sup> found an overall return rate of 61.7% in a study of a variety of questionnaires sent to PDPs, Shah JR et al.<sup>[7]</sup> found an overall response rate of 65.33%. This finding suggested that the survey addressed key issues.

Implant systems may be its cost, ease of performing surgical and prosthetic phases, availability of implants and so on. Radiographs were considered to be an indispensable part of Implant dentistry by all PDPs but surgical guides were not valued highly despite the fact that

correct alignment of implant and the artificial tooth is critical to achieve acceptable esthetics and occlusion.

A large number of PDPs are offering implants to their patients but less than half practice implant dentistry themselves. This shows the need of organizing more continuing educational programs on implant dentistry for PDPs to update their knowledge and skills in this field if they were to provide implants as a service in their practices.

With the increasing interest of PDPs in implant dentistry, most of the practitioners who do implants prefer doing both the surgical and prosthetic phases themselves. This is contrary to the finding of Klugman et al., who surveyed 312 Israeli dentists and reported that only 97 used implants in their practice.<sup>[8]</sup> Furthermore, of these 97 dentists, 40% worked on both the surgical and restorative phases. Adell reported 50-80% of general dentists in the USA replace missing teeth with implants but only a few of the muse this as a common mode of treatment.<sup>[9]</sup> These studies were carried out long time back and the changing scenario in implant dentistry all over the world should be taken into consideration. Varying popularity of implant systems may be due to various reasons; one of them being the marketing strategy of companies, by conducting implant courses, making an obvious product bias for the PDPs attending these courses.<sup>[10]</sup>

Other reasons affecting the choice of implant systems may be its cost, ease of performing surgical and prosthetic phases, availability of implants and so on. Radiographs were considered to be an indispensable part of Implant dentistry by all PDPs but surgical guides were not valued highly despite the fact that correct alignment of implant and the artificial tooth is critical to achieve acceptable esthetics and occlusion.

## **Conclusion**

It can be concluded that many PDPs are offering implants to their patients and attending various courses on implant dentistry to enhance their knowledge and skill. Osteem® Implant system was the most widely used among the surveyed PDPs. Many of the practitioners preferred doing both the surgical and prosthetic phases in implant dentistry themselves. As this survey was conducted in a limited group of people, with limited amount of information extracted, further surveys are needed to know the level of implant dentistry practiced and various problems encountered in implant dentistry by PDPs.

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