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# Original Research

## Knowledge and perception about different fields of dentistry among first year undergraduate students: An original research

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### ABSTRACT:

**Introduction:** Awareness about dental implants is increasing among dental patients, which demands a higher level of competence for dental students. So, the objective of this study was to assess the knowledge and perception about different fields of Dentistry among First year Undergraduate Students. **Materials and methods:** This cross-sectional questionnaire-based survey was conducted amongst First year under-graduate Dental Students. The sample included all those students who were present at the time of survey. Data collection were carried out during the academic schedules of the colleges, supervised, and monitored by the investigators. Collected data were coded, entered and descriptive analysis was carried out. **Results:** A majority of the total (64.6%) and 69.2% of 5<sup>th</sup> year respondents perceived to be moderately well-informed about dental implants. The main advantage of dental implants was thought to be longevity by 63.1% of total and 58.4% of 5<sup>th</sup> year students; only 37.6% of the total and 52.2% of 5<sup>th</sup> year students said the main advantage of dental implants is they are more conservative than other tooth-replacement modalities. Highest percentage of the total respondents (41.9%) said most important factor for implant success to be implant type and material, whereas 69.8% of 5<sup>th</sup> year students said case selection. Those who felt dental implants require additional oral hygiene maintenance and care by the patient and dentist were 68.4% of total and 78.1% of 5<sup>th</sup> year students. Over two-thirds (77.5%) of total thought that economic feasibility will limit use of dental implants. The difficulty encountered to place implants was perceived to be average by 66.8% of total and 68.1% of 5<sup>th</sup> year. There were differences in the perception and knowledge at different academic levels, but not as expected. **Conclusions:** It could not be concluded that knowledge about dental implants increased with increase in academic level. Even at the late-clinical year a majority of students gave unsatisfactory responses.

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### INTRODUCTION

Dentistry has evolved into the mainstream of restorative practices all over the world.<sup>1</sup> It has mainly two phases; a surgical phase and a prosthodontic phase. For centuries, there were ways to replace the crown but not the root but root replacement is now

possible.<sup>2</sup> Endosseous dental implants are alternative tooth roots and implant-supported prostheses are considered the best substitute for missing teeth. Awareness about dental implants is increasing among the general public and more and more patients are seeking information about dental implants.<sup>3-9</sup> It is

therefore useful to gauge the level of information about dental implants among dental students. All undergraduate dental students require basic knowledge about dental implant therapy so that they can educate and guide patients to undergo implant therapy whenever appropriate. Implant dentistry in the curriculum for undergraduate dental students, conducted curriculum surveys, held consensus workshops regarding the concern and modified their curricula accordingly.<sup>10-13</sup> In Asia, particularly in developing countries, there is little evidence in the literature regarding this aspect. A survey of 102 dental schools found that only 59% of dental schools offered surgical and prosthodontics courses related to implants in which students mainly observe.<sup>14</sup> The percentage of hands-on courses on implants for undergraduates is higher.<sup>14</sup> This study was conducted to ascertain the level of information about dental implants among undergraduate dental students from 1<sup>st</sup> year and thus, to know whether there is a need to survey the curriculum and teaching materials and methods.

## MATERIALS AND METHODS

This cross-sectional questionnaire-based survey was conducted in 30 dental colleges with students of first academic levels were included. Enquiry was made about the number of students in First academic years of each college and the total number of students was thus calculated. The study population was all undergraduates only. The sample included all those students who were present at the time of survey and excluded those who were absent. Data were collected through a pre-used questionnaire taken from previous study.<sup>15</sup> Minor modifications relevant modification was made in the questionnaire after a pilot study. Data collection were carried out during term-time supervised and monitored by the investigators themselves. Collected data were coded, entered and descriptive analysis carried out.

## RESULTS

The total number of students was 1500. The number of students present (number of questionnaires distributed) was around 1010, out of which 700 responded completely. Thus, the true response rate was 83.9%. Some aspects of demographic variables like age, sex, academic levels, and some other aspects of the survey have been published previously.<sup>16</sup> Distribution of students according to sex, age, and response rate have been considered. A majority of the total students perceived themselves to be moderately well informed about dental implants (58.6%). A majority thought the main advantage of dental implants as compared to other tooth-replacement modalities is longevity (58.1%), only 37.6% said more conservative than other tooth-replacement modalities. A majority (68.4%) felt that dental implants require additional oral hygiene maintenance and care by the patient and dentist than

natural teeth. 53.8% perceived the difficulty encountered to place implants as compared to other dental procedures to be average. Over two thirds (67.5%) thought that economic feasibility will limit use of dental implants. There were differences in the perception and knowledge at different academic levels, but not as expected (Table 1).

**Table 1: Knowledge and perception about dental implants among 1<sup>st</sup> year undergraduate students**

Questions	N (%)
1. Very well	80 (4.7)
2. Well	283 (16.6)
3. Moderately Well	928 (54.6)
4. Poorly	358 (21.1)
5. Not at all	51 (3.0)
6. Aesthetics; looks nicer	245 (14.4)
7. More conservative	469 (27.6)
8. Longevity; lasts longer	902 (53.1)
9. Do not know	84 (5.0)

## DISCUSSION

This study shows that there was a predominance of females students. (out of total students at that year). Differences were seen in the responses of students at different academic levels but, not as expected. It was expected to get a higher number of most appropriate evidence-based answers from the students at higher academic years. A majority of all students 58.4% said longevity is the main advantage of dental implants. Of the total students, 45.2% and 44.6% of the First year said implants lasts a life-time. Literature shows that the main advantage of dental implants as compared to other tooth-replacement modalities is they are more conservative as there is no need of preparing natural teeth as in conventional partial dentures.<sup>1,15,17</sup> Duration of longitudinal studies on survival of implants in the literature is upto 20 years.<sup>18-20</sup> So, the expected answer for the longevity of dental implants was 10–20 years. Patients should not be told that a dental implant will last for a life-time. Such belief will lead to unnatural patients expectations. Similarly, evidence shows that the most important factor for implant success is case selection,<sup>2,21,22</sup> but the highest percentage of the total students (31.9%) said ‘implant type and material,’ and 40.2% of students gave other answers than case selection. To the question about the cost of procuring a dental implant from an implant company and the initial set-up cost required to incorporate implant surgery into practice, a majority was not gained by any response. The highest percentage of the total respondents (35.1%) said they do not know the cost of procuring a dental implant. Such responses show their poor clinical exposure related to dental implants and a need to expose them to dental implant cases. A majority of the total students and 72.4% of first year

said they do not think dental implants are an acceptable solution for missing teeth because economic feasibility will limit their usage. A systematic review of literature has shown general public concern about the high cost of dental implant therapy,<sup>23</sup> but dental students should must be taught about the long-term cost of other treatment modalities as compared to implants so that they can advise patients about implant therapy whenever appropriate. In a similar study done to assess the knowledge of dental Students of 58.6% said the main advantage of dental implants as compared to other tooth-replacement modalities is they are more conservative and 51.07% said case selection to be the most important factor for implant success.<sup>24</sup> This suggests that undergraduate dental students acquire much of their basic knowledge about dental implants during their internship program. They have perceived the need and shown a positive attitude towards gaining more information about dental implant procedures through various sources.<sup>16</sup> An all-India survey carried out to gauge the knowledge and perception of undergraduate students towards dental implants also concluded that there is a need for revision of undergraduate curriculum.<sup>15</sup> Not only developed countries but also developing countries need to follow clear recommendations and guidelines for implementation of implant dentistry in undergraduate curriculum. Though many obstacles like inadequate curriculum time, lack of financial resources, lack of qualified faculty are there making the job really challenging in developing countries.<sup>14</sup> It is necessary to come-up with solutions or alternatives to those obstacles as soon as possible.

## CONCLUSIONS

Knowledge and perception about dental implants among First year undergraduate dental students differed, but not as expected. Knowledge about dental implants was expected to increase with increase in undergraduate training. Thus, there is a need for curriculum review, evaluation of teaching materials and methods, consensus workshops drawing solutions to obstacles and providing recommendations and clear guidelines to include advanced dentistry in undergraduate curriculum of developing countries, so that students will be able to respond properly to the increasing number of patients with queries about advanced dentistry.

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