

## Career choices and future challenges: A cross sectional study among upcoming Indian dentists

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### Abstract

**Introduction:** Disparity in distribution of dental manpower across rural urban settings is a major challenge in India's current dental scenario. Both the systems of dental education and dental health care service delivery hold a pivotal role in overcoming these challenges. Dental health infrastructure distribution, job opportunities and quality of service plays an integral role in molding future decisions in choosing dentistry as career choices.

**Aims:** To determine the current perceptions among upcoming dentists in choosing dentistry as a career and their future aspirations. This study also aims to foresee future challenges in dentistry and also helps to explore the remedial suggestions recommended by upcoming dentists.

**Materials and Methods:** A cross-sectional study was carried out among dental students in a private dental college setting at Mahe, Union territory of Pondicherry in South India. A pretested self administered questionnaire was distributed to fourth year and internship going dental students.

**Results:** Of 215 potential participants; 203 completed the questionnaire [females (n= 165) and males (n= 38)]. In choosing dentistry as career, 31.5% chose dentistry due to passion for profession, 22.7% due to their only option obtained in entrance exams, 13.7% due to proximity of college to hometown, 13.3 % to fulfil parent's aspirations and nearly 10.3% due to acceptance in the society. Regarding future aspirations after post-graduation 42.4% planned to work as specialists, 30% planned to work as faculty in government dental colleges and only few students chose working as faculty in private dental college [3.9%]. Nearly 15 % planned to work as dental clinician in dental clinic. The future challenges foreseen in dentistry as a profession by the upcoming dentists, 36.5% gave increased number of dental graduates passing out each year as the major challenge. Regarding suggestions on remedial strategies to meet future challenges 36.5% suggested reduction of number of dental seats sanctioned, 19.7% suggested to create job vacancies in public health sector, 17.7% suggested strict regulatory enforcement by the Dental Council of India [DCI] as the major responses.

**Conclusion:** Research into motivations and future expectations of upcoming dental workforce might provide insights to make time bound policy level changes for establishment of an effective dental health system.

**Keywords:** Dental Workforce, Dentistry, India, Motivations, Scenario.

### Introduction

India is a rapidly growing developing nation with an average population of around 1.2 billion, being the second most populated country in the world.<sup>(1)</sup> Around 70% of its population still resides in rural areas with unmet access and affordability issues. Oral health is very integral and is also linked to general health of the population. Disparity in dental workforce distribution as per the growing demands of the country especially in rural areas is a serious health challenge. The dental education and health service delivery system in India holds prime role to overcome these oral health challenges addressed by our country today. Dental human resource supply is changing and indicators have provided insights that number of dental Surgeons registered with Central/State Dental Councils of India in 1994 with 21,720 has increased to 1, 20, 897 as in 2012.<sup>(2)</sup> Even though dentist supply chain has increased over years, majority of the dentists deliver services in the urban regions where only 30% of the country's population resides. Therefore this current disparity of the situation play role in implementing effective

distribution of dental manpower and service delivery strategies.

Dental health infrastructure distribution and quality holds priority in moulding future decisions pertaining to career choices based on demand and supply chain. India has moved far forward since 1924 when her first dental college was started in Calcutta unto 2012 with 297 undergraduate (BDS) dental colleges and 140 colleges which conduct MDS courses as per statistics from National health profile 2012.<sup>(2)</sup> Private dental colleges have sprung up to meet the rising demands of the country .The distribution of dental colleges across the country is seen distorted with most colleges located in the southern and western states of India.<sup>(3)</sup> Mushrooming of private dental colleges in affluent states has also resulted in imbalances in educational access for dental services in our country.<sup>(3,4)</sup>

Ideal dentist population ratio according to WHO was recorded as 7500. According to World health Statistics report one dentist for every 10,000 population is the requirement. However in India the overall dentist population ration was 1:30,000, followed by one dentist per 10,000 population in urban areas and one in 2.5

lakh in rural areas as in year 2004 .These numbers projects the disparity in distribution of manpower when actually the vulnerable population are still left with few options or none.<sup>(4, 5)</sup>

Deficient public dental service infrastructure also adds to poor coverage of services in rural sector in India. Current public dental service delivery starts form secondary level of care with primary care platform catering only to prevention activities like dental education and dental camps. The majority of public dental curative services in our country are catered at secondary level which is Thaluk level hospitals; itself limited in majority of states across the country and through tertiary level government dental colleges. Creating platforms for dental services in the primary care level will improve service coverage and access to the vulnerable population. The change in demand side also influences the aspirations of future generations to choose dentistry as a profession and also promote service delivery in rural areas.<sup>(3-5)</sup> Exploring the student motives helps to transform and direct the studies to carefully plan, conduct process evaluation in dental curriculum, teaching process and future profiles as they relate to future professional integrity, access, and dental education.<sup>(3)</sup> Its integral to distinguish between various external and internal environments which help in motivating the students to truly enjoy dentistry as profession which includes working environment, financial rewards associated with career, availability and attractiveness of alternative careers, students background, psychological factors and social factors which include financial capabilities and social status etc. which may affect the decision making capacity.<sup>(6-11)</sup>

Dentistry as professional career may change overtime in relation to improving technology, team work and skill development. Therefore research in the area of understanding current perceptions in choosing dentistry as career is important for designing effective and targeted policy and educational level strategies. It was under such background the study was undertaken and included objectives to identify the current perceptions in choosing dentistry as career and future aspirations. The study also helps to foresee the future challenges in dentistry, and also to explore remedial strategies suggested by upcoming young dentists.

### Methodology

A cross-sectional study was carried out among 215 dental students in a private dental college setting at Mahe, Union territory of Pondicherry in South India. The study included survey of dental students doing final year and internship based on a pretested self-administered questionnaire.

### Statistical analysis

All the completed questionnaires were collected for data analysis. Statistical analysis was done using statistical software package SPSS Version 16 [IBM,

Chicago, USA]. Frequency distributions of study variables were calculated in percentages.

### Results

Of 215 potential participants; 203 completed the questionnaire [females (n= 165) and males (n= 38)]. Around 81% of the respondents were predominantly females [n= 165] and the rest 19% included males [n= 38] giving a male to female ratio of 1:4 respectively. The mean age for female respondents was 22.4 years [+/- 1.6 SD] and among males was 23.2 years [+/- 2.1SD] respectively .Analysis on the reasons for choosing dentistry as career revealed that 31.5% chose dentistry due to passion for profession, 22.7% due to their only option obtained in entrance exams, 13.7% due to proximity of college to hometown, 13.3 % to fulfil parents aspirations and nearly 10.3% due to acceptance in the society as per (Table 1)

Regarding future aspirations after post graduation 42.4% planned to work as specialists, 30% planned to work in government dental colleges as faculty, few chose working as faculty in private dental college [3.9%], as public health specialists [3.4%], research as career [2.5%], and others 2.9%. 14.8% planned to work as dental clinician in dental clinic. (Table 2)

Considering the sector of choice after post-graduation if given an option ; nearly 54.2% preferred to work in government/public sector, 39.4% preferred to work abroad and only 6.4% preferred to work in private setting as per (Table 3).

The future challenges foreseen in dentistry as a profession by the upcoming dentists 36.5% pointed increased number of dental graduates passing out each year as a major challenge, 22.7% were of the opinion that increasing number of dental colleges coming up, 19.7% suggested professional competition and 15.3% suggested job insecurity as major challenges as per (Table 4)

The suggestions on remedial strategies to meet future challenges 36.5% suggested reduction of number of dental seats sanctioned, 19.7% suggested to create job vacancies in public health sector, 17.7% suggested strict regulation enforcement by the Dental Council of India [DCI] the regulatory body of dentistry, 12.3% suggested ensuring provision of quality services, 5.4% suggested ensuring quality dental education, 4.9% suggested not to sanction further dental colleges as per (Table 5)

**Table 1: Reasons for career choice**

Reasons for career choice	n	Frequency
Passion for dentistry	64	31.5%
Option in entrance exams	46	22.7%
Proximity of college to hometown	28	13.7%
Parents wish	27	13.3%
Acceptance in the society	21	10.3%

Others	17	8.4%
Total	203	100%

**Table 2: Future aspirations**

Future aspirations	n	Frequency
Work as Consultant /specialist after post-graduation	86	42.4%
Faculty in government dental colleges after post-graduation in India	61	30 %
Work in Dental clinic	30	14.8%
Faculty in private dental college after post-graduation	8	3.9%
Work as public health specialist	7	3.4%
Research	5	2.5 %
Others	6	2.9%
Total	203	100%

**Table 3: Sector of choice if given option after post-graduation**

Sector of choice to work if given option after post-graduation	n	% Frequency
Public sector	110	54.2%
Abroad	80	39.4%
Private sector	13	6.4%

**Table 4: Future challenges foreseen in dentistry as career**

Future challenges foreseen in dentistry as career	n	% Frequency
Increasing number of dental graduates passing each year	74	36.5%
Increasing number of dental colleges coming across the country	46	22.7%
Increasing competitions	40	19.7%
Job insecurity	31	15.3%
Others	12	5.9%
Total	203	100%

**Table 5: Suggestions on remedial strategies to meet future challenges in dentistry**

Suggestion on remedial strategies to meet future challenges in dentistry	n	% Frequency
Reduction of sanctioned seats	72	35.5%
Enforcement of regulation by DCI	37	18.2%
Create job vacancies in public sector	36	17.7%

Reduce sanctioning of upcoming dental colleges	31	15.3%
Ensuring quality dental services	12	5.9%
Improve Quality education	11	5.4%
Others	4	1.9%
Total	203	100%

## Discussion

The present study has shown the current scenario of increased enrolment of females in dental colleges; which may be related to their effectiveness in managing flexible working hours and preference to balance between professional and personal life.<sup>7</sup> Students in the study reported that reason for choosing dentistry as career was largely due to their professional passion for the field followed by allotment of seats in entrance tests, proximity to hometowns, parent's wish fulfilment and acceptance in society. Motives around which decision making of students revealed that parent's opinion also played an integral role.<sup>(12)</sup>

According to a study in North India nearly 79% wanted to become specialists after pursuing post-graduation which was in congruence with our study results. Our study also highlighted the deep interest among dental graduates to work in public sector of the country which adds light for future options to improve our public health infrastructure and disparity in manpower distributions; thereby improving access to services in rural areas. Job security could be one among the reasons for choice of preference of working in public sector. Lack of interest in working private setting was another interesting finding in the present study which was in contrast to study results of Baharwad et al among Iranian students.<sup>(13)</sup>

Regarding challenges foreseen in dentistry as a career revealed a majority response of increase in dental graduates passing out each year, followed by increase in number of dental colleges coming across the country, increasing competitions and job insecurity. Studies in this background is integral since challenges are different as per different country setting and policies per se and also highlights the need especially in Indian scenario with current trend of mushrooming of private institutions.<sup>(3, 4)</sup> Imbalance between the deficient public health system to support dental services and increased private sector in the form of private clinics, corporate multi-speciality dental units and private dental colleges primarily has skewed the graph of disparity in dental supply and demand chain.<sup>(14)</sup>

The study also highlights on the remedial strategies suggested by the upcoming dentists with majority opinion on restricting the number of dental seats followed by strict enforcement of regulation by DCI, creating job vacancies in public sector, limiting sanctioning of further new dental colleges across the country, ensuring quality services and improving quality education. The study results were seen

complementary to conclusions given in literature as per Sankalp Yadav et al study in 2016.

The limitations of the present study was that it included only a small sample size, study was limited to only one college setting and responses were self-reported and self-judgmental in nature.<sup>(14)</sup>

### Conclusion

The study has emphasized on factors which influence choice of dentistry as career and also foreseen challenges along with recommended strategies based on dental student's perspectives. An array of factors influences the career choices. In India dentistry is in need for necessary policy level changes which need to be transcribed at the earliest into practice; to maintain the professional integrity. The current scenario of manpower disparity in distribution and provision of services should be taken as an extreme necessity for appropriate decision making in time since highly trained dentists of our country are valuable resources, which can be utilized effectively for improvement of our own health system. Research into motivations and future expectations of upcoming dental workforce might add insights to make time bound policy level changes for establishment of an effective and efficient dental health system in India.

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