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# Practice Management Skills of Graduating Dental Students Entering the Work Force

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**Abstract:**

Dental education aims to produce competent graduates with the ability to provide quality dental care to the patients and facilitate smooth integration into professional practice. The objective of this study was to explore the overall preparedness of grandaunts for integrating into professional dental practice. The survey was tested for reliability and analysed the career paths, learning preferences, overall knowledge, and confidence amongst graduating dentists in integrating and managing a dental practice on graduation. Seventy graduating students of Saveetha Dental College, Chennai, participated in the study. Students indicated a high level of confidence in their skills and ability to work in a team in a practice or collaboratively with other colleagues and specialists but expressed some reservation on their practice management skills. Challenges in gaining employment and pressures to repay educational debts are amongst the reasons for grandaunts preferring a paid job immediately on graduation regardless of demographics. Students indicated that an increase in speciality training and clinical/outreach placements could enhance employability. This study explores the students' perception of their confidences, knowledge, learning preferences, and practice management skills as a method of evaluating their preparedness to practice on graduation and provides a base line for curriculum structuring to prepare grandaunts to enter the competitive dental work force.

**Keywords:**Dental students, grandaunts, knowledge, practise management, skills, professional.

## INTRODUCTION:

The dental committee on the future of dental education had highlighted the need for careful recruitment and continued development of students and faculty as essential to the educational changes for future [1]. In many countries, to qualify as a dental practitioner, a student must complete the required academic and clinical training in an accredited educational environment for 5 years [2]. To embark on a career as a practitioner, graduating students are expected to be competent in providing quality holistic patient care and should also be prepared to adapt to needs of the society and be competent in the practice management. The present study seeks information across a broad range of areas, impacting the graduating students and concerning factors such as financial support during education, perceived confidence in skills, knowledge, career paths, learning preferences, and preparedness, along with practice management skills and employability.

Educational principles of the dental schools should facilitate the student's primary objective of integration into dental practice, while ensuring that students gain essential competency in providing quality holistic patient care [3, 4]. The Association for Dental Education in Europe and the American Dental Association recommended that curriculum restructuring should focus on evidence based patient care as the fundamental part of the clinical education, along with highlighting the need for teamwork, practice management, and knowledge of information technology [4–6].

Henzi et al. [7] using student perspective project (SPP) and curriculum SWOT analysis (SWOT: curriculum strengths, weaknesses, opportunities for improvement, and threats to program quality) reported that majority of students desired a curriculum with a focus on developing clinical experience in clinical technique and technology [7]. It is also reported that students perceived that their integration into general dental practice could be better facilitated by more time in a clinical environment and more knowledge into practice management [7–9].

This study explored the confidence, fiscal status, career paths, learning preferences, and overall knowledge amongst graduating dentists in integrating into the mainstream dental work force. Study also considered the self-perceived knowledge in establishing and managing an independent practice.

## MATERIALS AND METHODS:

The present survey questionnaire was a modification of work done by Manakil and George [9] and was designed to investigate the confidence, fiscal status, learning preferences, career paths, overall knowledge, and the integration or managing of the dental practice amongst graduating dentists. The graduating students from Saveetha dental college, Chennai, India, were requested to participate in the survey.

The questionnaires were divided into five parts: the first part of the questionnaire collected personal data such as age, gender, fiscal status, and income support options of students during the program. The second part of the study evaluated the self-perceived confidence in skills obtained over the length of the dental educational programme. This part looked at perceived confidence in operative skills, integrating into dental practice, patient management skills, and interpersonal skills.

The third part of the survey analysed the student demographic employment preferences such as (1) private or public sector jobs, (2) rural or city based practice, (3) preferred speciality areas to practice, and (4) preference for establishing an independent practice. This part also looked at students current job applications.

The fourth part of the study assessed the student's perception and proficiency in managing an independent practice. Study evaluated the students' knowledge of the cost of Dental Council registration, indemnity insurance, and mandatory requirements to maintain registration. The survey further tested students perceptions of their rights and responsibilities as a practitioner and importance of team work and their perceived knowledge on cost of materials and cost of running an independent practice.

To understand student's knowledge of principal cost and working cost of a practice, they were asked to estimate these costs (e.g., overall cost of practice, staff and management, advertisements, dental consumables, and equipment's and infrastructure maintenance: electricity, water, council charges, etc.).

The fifth part of the study examined information on the learning preferences. Their interest in an additional year of internship (paid or unpaid) and topics that they perceived should have been included into the curriculum as a method of improving their employability and integration into the evolving work environment.

The completed questionnaires were entered into a spread sheet, the responses were evaluated using the descriptive statistics to estimate the frequency, and the items were correlated. The significance of the data and differences in self-perceived knowledge between men and women were tested. The answer to the open-ended question about the preferred educational experience and suggestions were transcribed, and common themes were identified and grouped as the percentage frequency. SPSS software was used for statistical analysis. The aim of these questions was to explore the insight on the curriculum from the perspective of a graduating student.

## RESULTS:

The questionnaires were filled up by 23 males and 47 females, mostly of age group 20-24 years. 95% of the participants were financially supported for the course by their family. When asked about their preferences of practise, 63% of them opted for "employee". 63% were inclined to open independent practise after a couple of years. 78% of the participants preferred city practise over rural practise. When asked about their strongest field of experience equal numbers (67.5%) said it was periodontics and conservative dentistry. It was found that the participants felt that their knowledge of practise management and finance was very good, and that of rights and responsibilities as a practitioner was neither good nor poor. Most of them understand that team work is very important. Majority thought that the cost of starting a practise was 5 to 20 lakhs. Data also revealed that the participating students had the confidence to treat patients from diverse backgrounds.

**STATISTICS**

| | Age | Financial support | Type of practise | Opening independent practise | Choice of practise | Gain of employment | Strongest experience | Cost of material | Cost of insurance | Knowledge about practise management and finance | Knowledge on rights and responsibilities | Source of information about responsibilities | Importance of team work | Cost of establishing practise | Did your course experience prepare you to manage patients from diverse backgrounds |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| N Valid | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 |
| Missing | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mean | 1.0714 | 2.9571 | 2.0857 | 1.9143 | 1.3429 | 1.9571 | 1.6286 | 2.7000 | 2.1571 | 1.4714 | 3.1143 | 1.7286 | 2.4714 | 1.4286 | 1.1429 |
| Std. Error of Mean | .03100 | .04286 | .07264 | .07264 | .08362 | .07731 | .07660 | .11574 | .08300 | .06663 | .10081 | .06410 | .06663 | .05958 | .04213 |
| Median | 1.0000 | 3.0000 | 2.0000 | 2.0000 | 1.0000 | 2.0000 | 2.0000 | 2.0000 | 2.0000 | 1.0000 | 3.0000 | 2.0000 | 2.0000 | 1.0000 | 1.0000 |
| Mode | 1.00 | 3.00 | 2.00 | 2.00 | 1.00 | 2.00 | 1.00[a] | 2.00 | 2.00 | 1.00 | 3.00 | 2.00 | 2.00 | 1.00 | 1.00 |
| Std. Deviation | .25940 | .35857 | .60775 | .60775 | .69960 | .64686 | .64091 | .96834 | .69440 | .55746 | .84344 | .53626 | .55746 | .49844 | .35245 |
| Variance | .067 | .129 | .369 | .369 | .489 | .418 | .411 | .938 | .482 | .311 | .711 | .288 | .311 | .248 | .124 |
| Range | 1.00 | 3.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 3.00 | 2.00 | 2.00 | 3.00 | 2.00 | 2.00 | 1.00 | 1.00 |
| Minimum | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 1.00 | 1.00 |
| Maximum | 2.00 | 4.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 5.00 | 3.00 | 3.00 | 4.00 | 3.00 | 4.00 | 2.00 | 2.00 |

a. Multiple modes exist. The smallest value is shown

**FREQUENCY TABLE**

**Gender**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | male | 23 | 32.9 | 32.9 | 32.9 |
| | female | 47 | 67.1 | 67.1 | 100.0 |
| | Total | 70 | 100.0 | 100.0 | |

**Age**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | 20-24 | 65 | 92.9 | 92.9 | 92.9 |
| | 25-29 | 5 | 7.1 | 7.1 | 100.0 |
| | Total | 70 | 100.0 | 100.0 | |

**Financial Support**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | part time<24 hrs | 2 | 2.9 | 2.9 | 2.9 |
| | supported by family | 67 | 95.7 | 95.7 | 98.6 |
| | Dependent on HECS/PELS/other source | 1 | 1.4 | 1.4 | 100.0 |
| | Total | 70 | 100.0 | 100.0 | |

**Type Of Practise**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | partnership | 10 | 14.3 | 14.3 | 14.3 |
| | employee | 44 | 62.9 | 62.9 | 77.1 |
| | sole | 16 | 22.9 | 22.9 | 100.0 |
| | Total | 70 | 100.0 | 100.0 | |

**Opening Independent Practise**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | immediately | 16 | 22.9 | 22.9 | 22.9 |
| | AFTER FEW YEARS | 44 | 62.9 | 62.9 | 85.7 |
| | NOT INCLINED | 10 | 14.3 | 14.3 | 100.0 |
| | Total | 70 | 100.0 | 100.0 | |

**Choice Of Practise**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | city | 55 | 78.6 | 78.6 | 78.6 |
| | rural | 6 | 8.6 | 8.6 | 87.1 |
| | no preference | 9 | 12.9 | 12.9 | 100.0 |
| | Total | 70 | 100.0 | 100.0 | |

**Gain Of Employment**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | city | 16 | 22.9 | 22.9 | 22.9 |
| | rural | 41 | 58.6 | 58.6 | 81.4 |
| | no preference | 13 | 18.6 | 18.6 | 100.0 |
| | Total | 70 | 100.0 | 100.0 | |

**Strongest Experience**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | periodontics | 32 | 45.7 | 45.7 | 45.7 |
| | restorative | 32 | 45.7 | 45.7 | 91.4 |
| | prosthodontics | 6 | 8.6 | 8.6 | 100.0 |
| | Total | 70 | 100.0 | 100.0 | |

**Cost Of Material**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | 2,00,000-5,00,000 | 39 | 55.7 | 55.7 | 55.7 |
| | 5,00,000-7,00,000 | 20 | 28.6 | 28.6 | 84.3 |
| | 7,00,000-10,00,000 | 4 | 5.7 | 5.7 | 90.0 |
| | >10,00,000 | 7 | 10.0 | 10.0 | 100.0 |
| | Total | 70 | 100.0 | 100.0 | |

**Cost Of Insurance**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | <25,000 | 12 | 17.1 | 17.1 | 17.1 |
| | 50,000-75,000 | 35 | 50.0 | 50.0 | 67.1 |
| | 75,000-1,00,000 | 23 | 32.9 | 32.9 | 100.0 |
| | Total | 70 | 100.0 | 100.0 | |

**Knowledge About Practise Management And Finance**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | very good | 39 | 55.7 | 55.7 | 55.7 |
| | good | 29 | 41.4 | 41.4 | 97.1 |
| | neither good nor bad | 2 | 2.9 | 2.9 | 100.0 |
| | Total | 70 | 100.0 | 100.0 | |

**Knowledge On Rights And Responsibilities**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | VERY GOOD | 4 | 5.7 | 5.7 | 5.7 |
| | GOOD | 9 | 12.9 | 12.9 | 18.6 |
| | NEITHER GOOD NOR BAD | 32 | 45.7 | 45.7 | 64.3 |
| | POOR | 25 | 35.7 | 35.7 | 100.0 |
| | Total | 70 | 100.0 | 100.0 | |

**Source Of Information About Responsibilities**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | ADAQ WEBSITE | 22 | 31.4 | 31.4 | 31.4 |
| | AHPRA WEBSITE | 45 | 64.3 | 64.3 | 95.7 |
| | lecture classes | 3 | 4.3 | 4.3 | 100.0 |
| | Total | 70 | 100.0 | 100.0 | |

**Importance Of Team Work**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | important | 39 | 55.7 | 55.7 | 55.7 |
| | neutral | 29 | 41.4 | 41.4 | 97.1 |
| | not sure | 2 | 2.9 | 2.9 | 100.0 |
| | Total | 70 | 100.0 | 100.0 | |

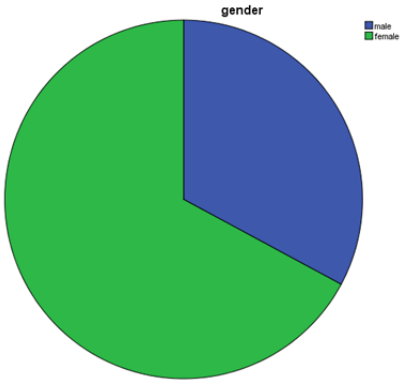
**Cost Of Establishing Practise**

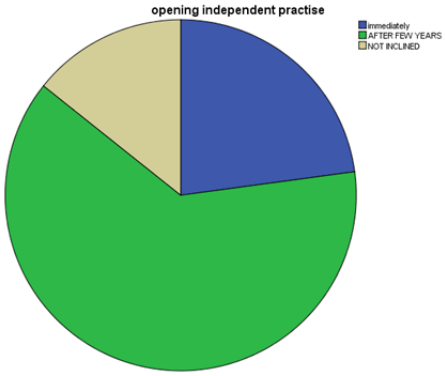
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | 5-10 lakhs | 40 | 57.1 | 57.1 | 57.1 |
| | 10-20 lakhs | 30 | 42.9 | 42.9 | 100.0 |
| | Total | 70 | 100.0 | 100.0 | |

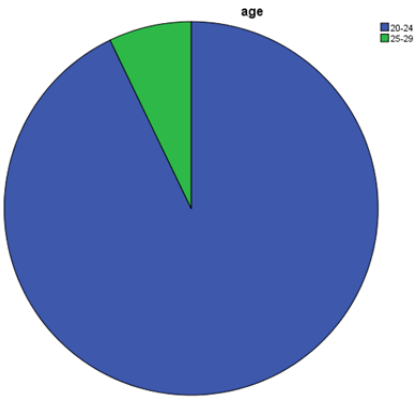
**Did Your Course Experience Prepare You To Manage Patients From Diverse Backgrounds**

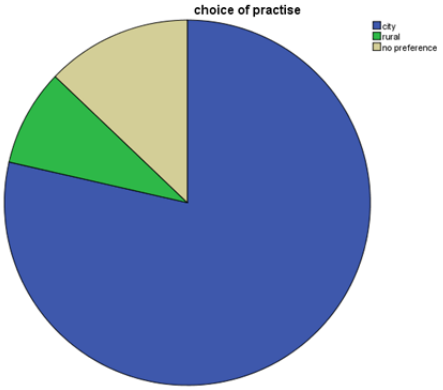
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | fully | 60 | 85.7 | 85.7 | 85.7 |
| | partly | 10 | 14.3 | 14.3 | 100.0 |
| | Total | 70 | 100.0 | 100.0 | |

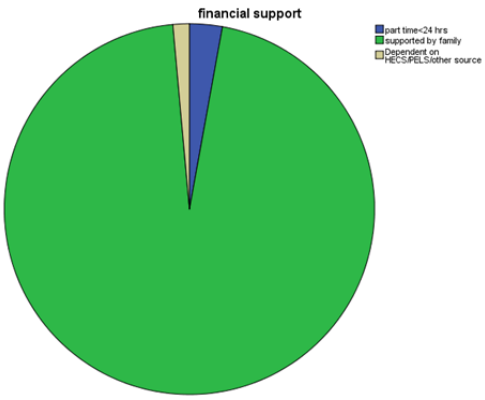
**PIE CHART**

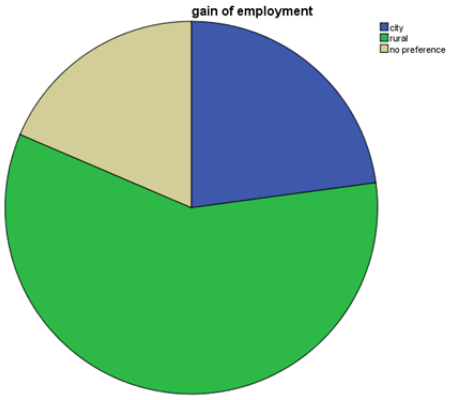

gender
male
female

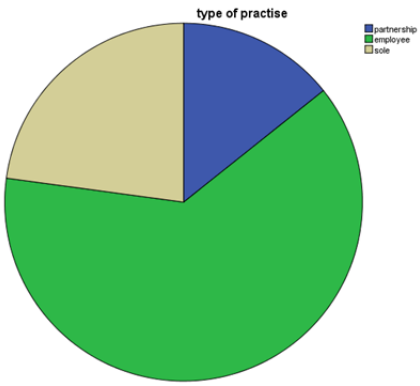

opening independent practise
immediately
AFTER FEW YEARS
NOT INCLINED

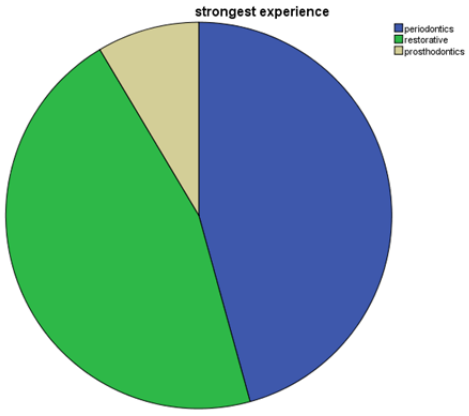

age
20-24
25-29

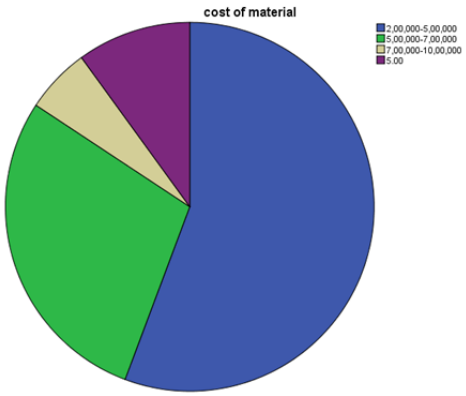

choice of practise
city
rural
no preference

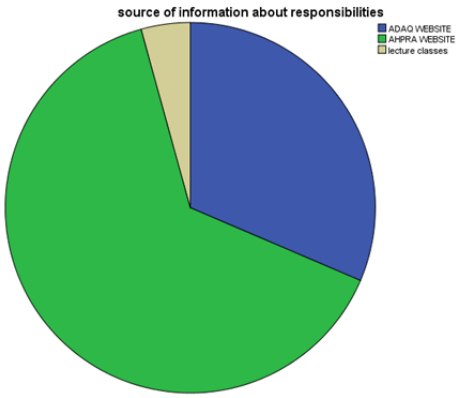

financial support
part time<24 hrs
supported by family
Dependent on HECS/PELS/other source

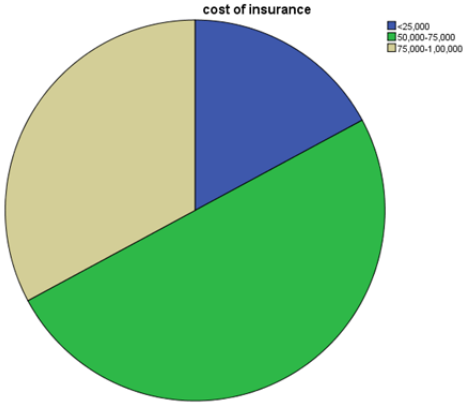

gain of employment
city
rural
no preference

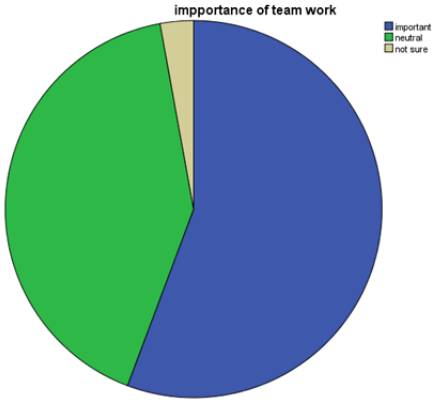

type of practise
partnership
employee
sole


strongest experience
periodontics
restorative
prosthodontics

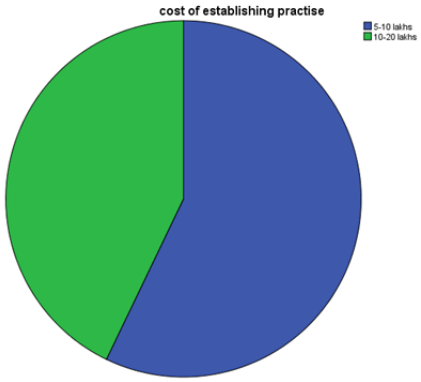

cost of material
2,00,000-5,00,000
5,00,000-7,00,000
7,00,000-10,00,000
5.00

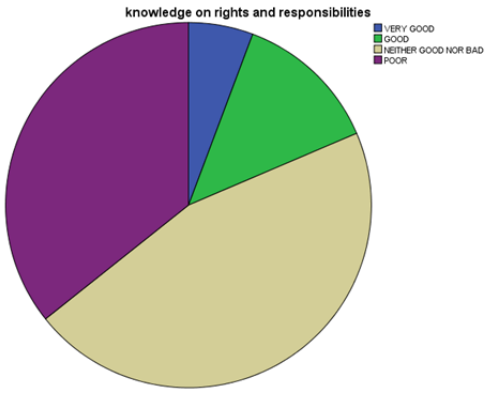

source of information about responsibilities
ADAQ WEBSITE
AHPRA WEBSITE
lecture classes

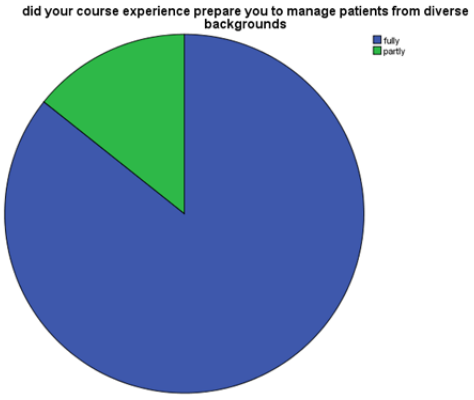

cost of insurance
<25,000
50,000-75,000
75,000-1,00,000


impportance of team work
important
neutral
not sure


knowledge about practise management and finance
ver good
good
neither good nor bad


cost of establishing practise
5-10 lakhs
10-20 lakhs


knowledge on rights and responsibilities
VERY GOOD
GOOD
NEITHER GOOD NOR BAD
POOR


did your course experience prepare you to manage patients from diverse backgrounds
fully
partly

## DISCUSSION:

Graduating students are increasingly being challenged with rapid development in the field of dentistry; this makes it essential that graduating students are well prepared with not only essential knowledge and skills but also patient and practice management skills. This survey questionnaire was modified from an earlier study by Manakil and George [10] and included a broader range of topics such as the students financial support, their preferential career path following graduation, perceived knowledge, and limitations they have encountered.

The study explored the source of financial support during the period of student's dental education. The data showed that students obtained funding through a variety of sources such as financial scholarships, working hours outside the scheduled educational period, and also parents or relatives. The cost of professional dental education is a concern shared by most graduands [11–13], with some students often opting for Higher Education Loan Program (HECS-HELP), while others opt for support from relatives or part-time work to fund their university education [14, 15]. The survey reflected that the educational debt influenced the graduands need to seek employment and career choice, immediately on graduation, with little thought on geographical location. The above findings are supported by the British Dental Association survey which reported considerable financial support is required to finish a dental degree and there are a large number of students in debt by fifth year of the program [16].

The 2012 Australian dental work force survey (2014) reported a registered dentist population of 72.3/100,000 in major cities and 22.7/100,000 in remote areas [17]. The increasing number of dental practitioners is leading to an increased pressure in gaining employment in major cities [18]. These findings are similar to those reported in British studies; with an increased concentration of dentists in the major cities, new graduates are finding it increasingly difficult to find employment in the cities [19, 20]. Interestingly, according to our survey, if given a choice, majority of the graduating students would prefer a city based practice. This may be due to the proximity of families around urban areas and also cities are financially more productive.

As a long term career goal, graduands hoped to own a practice after gaining some work experience. Owning a private practice is often projected as social symbol of success [7, 21, 22]. However, immediately on graduation, many of the graduands would like to be employed; this is reflected in the students desire to have a mentor for the first few years of practice outside university environment. Geography of practice preference showed city practice as the primary choice with no significant difference among genders in their choice, while private practice employment was also favoured by many graduands.

The dental graduates not only are required to be proficient in the patient care but also have to be competent in business/practice management [10]. Houlberg [23] in his study reported that there is inadequate training in practice management and suggested that the future dental curriculum should address the practice management training as an important component in the curriculum [23, 24]. In the current study, graduating students perceived that they had insufficient knowledge on the cost of business/practice management (administration, advertisements, dental consumables, cost of equipment's and infrastructure maintenance, overhead cost of equipment, materials, staffing, etc.). However, the students' assumption about staffing being of high cost in a practice was correct, although they were unsure in other areas of the practice financial expenses. The study supports the suggestions that to manage a successful practice the training in practice management should be considered as a module in the curriculum for the graduating students and should continue even following graduation [24–27]. Furthermore, as India is a multicultural society, it is important that students are prepared to be more receptive of diverse cultures and beliefs. Duke et al. [28] argued that it is time to ensure practitioners in all health disciplines are culturally competent, thus ensuring culturally safe care to patients. Interestingly, in our study, 91.1% of students claimed to be fully or partially confident in their preparedness for managing patients from culturally diverse backgrounds.

Graduands indicated that they felt comfortable with their basic operative skills; however they felt increasingly challenged when more complex speciality skills were required. This disciplinary ambiguity towards special skills was also reflected in the studies by Henzi et al. and Gerbert et al. [30, 32]. The open-ended questions were specific on these areas that will enrich the curriculum like more training on practice management, more insight into speciality training in orthodontics, implant dentistry, and laser dentistry. The students suggested that these modifications would enhance their employability and widen their career choice. There are various studies in regard to the concerns of graduating students with their clinical skills and knowledge in dental implant, orthodontics, and practice administration [6, 33].

## CONCLUSION:

This study showed that students were confident in clinical skills developed but were a bit sceptic about their knowledge on practice management. Students were also keen on increasing their scope of practice by learning additional speciality skills. Increasing employability of graduands is becoming a challenge in an ever increasing and competitive work market; hence curricula should consider integration of clinical skills and knowledge with practice management skills.

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