

PIDC (Penang International Dental College) Final Year Dental Students' Perceptions of Dental Specialities and Factors Influencing Speciality and Career Choices

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Abstract

Aim: To explore whether Bachelor of Dental Surgery (BDS) undergraduates attending PIDC indicated a desire to pursue a specialty career, and the extent to which they feel prepared in this regard.

Methodology: A total of 86 students were selected from batch 18 and batch 19 (final year undergraduate students) for the study. A Pilot study was conducted on a sample size of 10 respondents from batch 17 (graduated students) to assess the feasibility of the study.

Results: 25.6% of students have most desired Conservative dentistry and endodontics, 20.9% for Orthodontics and 16.3% for Paediatric Dentistry in their first choice of specialty. 22.1% Conservative Dentistry and Endodontics followed by 15.1% Orthodontics and 14.0% Paediatric Dentistry were listed as their second choice. Almost half of the dental students (45.3%) identified that pursuing dental specialty was too expensive, and the length of acquiring a postgraduate degree was a deterring factor.

Conclusion: It was concluded that large number of undergraduates had an intention to specialise, with Conservative Dentistry and Endodontics being the most popular intended subject. Gender and ethnicity did not have any influence on intentions to specialise.

Keywords: Dentistry; Speciality Choice; Specialization; Postgraduate

Introduction

Dental Specialization is the formal acquisition, the ongoing maintenance and the continual improvement of comprehensive knowledge and experience-based competencies by a dentist in a specific discipline (specialty) of dentistry - FDI World Dental Federation. It has become a norm for individual dental practitioners to pursue advanced education, experience and specific focused competencies [1]. Besides, a wide range of career and business opportunities are found in dentistry as a general practitioner as well as a specialist.

In Malaysia, specialist care available within the dental service, Ministry of Health is categorized into nine disciplines - Oral Surgery, Orthodontics, Periodontology, Oral Pathology and Oral Medicine, Pediatric Dentistry and Restorative Dentistry, Forensic Dentistry, Dental Public Health and Special Needs Dentistry. According to Department of Statistic Malaysia (2016), the number of dentists showed an increase of 12.6 percent from 6,384 persons in 2015 to 7,186 persons [2]. Not only is there an increase in the number of dentists, the number of dental specialists is also on the rise (Table 1).

Discipline	2000	2005	2010
Oral Surgery	32	33	53
Orthodontics	28	28	36
Periodontics	8	13	21
Paediatric Dentistry	8	16	30
Oral Pathology/ Oral Medicine	2	4	9
Restorative Dentistry	0	3	16
Dental Public Health	102	120	124
Forensic Odontology	0	0	1
Special Needs Dentistry	0	0	2
Total	180	271	292

Table 1: Total number of dental specialist by discipline ministry of health Malaysia (2000 - 2010).

According to The Globe and Mail, “Current work-force data suggest that there is an oversupply of dentists throughout most regions of Canada, and the current supply of dentists will continue to significantly outpace the population growth,” the report notes [3]. Oversupply of dentists may spark a fierce competition. Moreover, such situation in Canada may also happen in Malaysia as the number of graduates from overseas has been doubled since 2014. This gives rise to another pivotal question whether specialties are able to meet not only the demands of the population but also the desires to specialize among junior doctors. Hence, a recent study found that a large proportion (71%) of UK undergraduates expressed a desire to specialize following graduation, with Orthodontics being the most popular intended specialty [5]. A survey was also conducted at Harvard School of Dental Medicine for the Classes of 2007-11, and results on factors influencing student interest in prosthetic dentistry at HSDM were published in 2011 [6]. They also found that talent, challenging diagnosis and intellectual content of specialty were the factors that most influenced students’ decisions to select a particular dental field. Much remains to be learned about students’ perceptions of dental specialties and influencing factors on specialty and career choices. Therefore, the aim of this research is carried out into PIDC undergraduate final year students’ career plan, including their intention to further specialize and factors influencing their decision to specialize in a particular branch.

Objective of the Study

The objectives of our study were: 1. To identify the most desired speciality by participants of PIDC. 2. To identify if there exists any significant correlation between gender and the decision to pursue a specialist course. 3. Identify factors that play an important role in students’ decision to pursue specialty training or career choices

Materials and Methods

Recognizing the need for information about dental students’ perceptions and factors that influence their career choices, a cross-sectional survey on final year dental students of Penang International Dental College (PIDC) is carried out to ensure the students are receiving enough exposure regarding all specialty fields.

A total of 86 students sample size is selected through convenience sampling. A survey questionnaire conducted in University of Bristol, United Kingdom was used [10]. The questionnaire was modified to suit the demographic data of Malaysia, such as ethnicity, parental occupation, choices of specialist career.

Before distributing the questionnaires to the subject, a pre-test was done on 10 final year dental students from batch 17, to assess feasibility of study and to check intra examiner variability. After explaining the study objectives, the participants were assured of the confidentiality of the collected information. We did some corrections in our questionnaire based on the feedbacks we collected from this pre-test. After that, survey questionnaire is hand-distributed in printed paper to the final year students from batch 18 and batch 19. It consisted of two sections: four questions regarding the students’ background and seven questions regarding their attitudes towards postgraduate specialization. An open-end style of questioning was used as subjects could be able to convey their opinion if their answer is not in the choice of response. Each questionnaire consists of only 11 questions which aid in speed of completion. The limitations of this non-probability sample technique is that it cannot be inferred for the whole population, and there might be a risk of bias due to only PIDC students being included. SPSS 21 is used to carry out statistical analysis of the result.

Results

Questions			
Percentage of respondents by gender and desire to pursue a specialist career			
		Frequency	Percent
Gender	Male	29	33.7
	Female	57	66.3
	Total	86	100.0
Percentage of respondents by intention to pursue a speciality			
		Frequency	Percent
Intention to pursue a speciality	Yes	60	69.8
	No	2	2.3
	Do not know	24	27.9
Total		86	100.0
Percentage of parental occupation of the respondent			
		Frequency	Percent
Parental Occupation	Manager	20	23.3
	Professionals	30	34.9
	Technicians and associate professionals	4	4.7
	Clerical support workers	1	1.2
	Service and sales workers	11	12.8
	Skilled agricultural, forestry and fishery workers	4	4.7
	Craft and related trades workers	2	2.3
	Plant and machine-operators and assemblers	1	1.2
	Others	13	15.1
	Total	86	100.0
Percentage of respondents by first choice of speciality			
		Frequency	Percent
First choice of speciality	Oral maxillofacial surgery	13	15.1
	Oral medicine and radiology	1	1.2
	Pediatric dentistry	14	16.3
	Orthodontics	18	20.9
	Prosthetic dentistry	7	8.1
	Periodontology	3	3.5
	Dental public health	2	2.3
	Conservative dentistry and endodontics	22	25.6
	Oral pathology	1	1.2
	Forensic odontology	5	5.8
	Total	86	100.0

Percentage of respondents by second choices of speciality			
		Frequency	Percent
Second choices of speciality	Oral Maxillofacial Surgery	11	12.8
	Oral Medicine and Radiology	4	4.7
	Paediatric Dentistry	12	14.0
	Orthodontics	13	15.1
	Prosthetic Dentistry	7	8.1
	Periodontology	7	8.1
	Dental Public Health	5	5.8
	Conservative Dentistry and Endodontics	19	22.1
	Oral Pathology	2	2.3
	Forensic Odontology	6	7.0
	Total	86	100.0
	Percentage of respondents by factors affecting decision to specialize		
		Frequency	Percent
Factors affecting decision to specialize	Family and friends expectation	2	2.3
	Social status	4	4.7
	Talent in the field	31	36.0
	Reward	5	5.8
	Financial reasons	11	12.8
	Lack of existing specialists in field	7	8.1
	Further studying	15	17.4
	Others	11	12.8
	Total	86	100.0
	Percentage of respondents by factors discouraging decision to specialize		
		Frequency	Percent
Factors discouraging decision to specialize	Too time consuming	20	23.3
	Too expensive	39	45.3
	No need	2	2.3
	Too competitive	12	14.0
	Further studying	11	12.8
	Others	2	2.3
	Total	86	100.0

Table 2: Results obtained from questionnaire.

Out of 86 (27 Male, 59 Female), 25.6% of students have most desired in Conservative dentistry and endodontics, 20.9% for Orthodontics and 16.3% for Pediatric Dentistry in the first choice of speciality. 22.1% Conservative Dentistry and Endodontics followed

by 15.1% Orthodontics and 14.0% Pediatric Dentistry were listed as the most desired second choice of specialty. For the factors affecting decision to specialize, 36.0% of the students was 'talent in the field', 17.4% of the students prefer 'further studies' and 2.3% least chosen factor is 'family and friends expectation'. Almost half of the dental students (45.3%) identified that pursuing dental specialty is too expensive, the length of acquiring a postgraduate degree as a deterring factor from becoming a specialist is the second factor discouraging from specialisation.

Intention to pursue a speciality					
	Sum of Squares	df	Mean Square	F	Sig. (SPSS 21) p < 0.05
Between Groups	4.168	9	.463	.543	.838
Within Groups	64.762	76	.852		
Total	68.930	85			

Table 3: ANOVA test of intention to pursue a speciality.

		Gender	Intention to pursue a speciality
Gender	Pearson Correlation	1	-.004
	Sig. (1-tailed)		.486
	N	86	86
Intention to pursue a speciality	Pearson Correlation	-.004	1
	Sig. (1-tailed)	.486	
	N	86	86

Table 4: Pearson's correlation between gender pertaining to the decision to pursue a specialist course.

**Association is significant at the 0.05 level (1-tailed).

Note: r = > 0.8 - Very strong correlation

0.6 - 0.8 - Strong correlation

0.4 - 0.6 - Moderate correlation

0.2 - 0.4 - Weak correlation

< 0.2 - Very weak correlation.

In this study, there is very weak association between gender and intention to pursue a speciality course. As can be seen from the table above, the Pearson 'r' value is 0.004 (r = 0.004, p = 0.486, @ = 0.05) indicates a very weak relationship and with p > 0.05 shows there is no significance difference between gender and intention to pursue a post graduate course.

	Malays	Chinese	Indians	Others
Malays	1	0.561	0.010	0.153
Chinese	0.561	1	0.571	0.714
Indians	0.010	0.571	1	0.143
Others	0.153	0.437	0.143	1

Table 5: Anova readings of significance between Malays, Chinese, Indians and others pertaining to intention to specialize (a = 0.05).

As is evident from the significant values obtained, there is significant differences between Indian and Malay. While for others ethnic, there is no significance difference between one another. Most of the ethnic groups pertaining to the intention to pursue a post graduate course.

		Frequency	Percent	Valid Percent	Cumulative Percent
Vali	Yes	47	54.7	54.7	54.7
	No	39	45.3	45.3	100.0
	Total	86	100.0	100.0	

Table 6: Percentage of students that feels that they have received sufficient exposure and motivation to pursue speciality course.

Discussion

This study reports the attitude and perspective towards post-graduate specialization among final year students of Penang International Dental College. Our data shows that most of the final year dental students have the intention to pursue.

About two-third of the dental undergraduates were decided to pursue a specialist career and more than half of the dental undergraduates feel that PIDC had provided sufficient exposure regarding specialty fields. This could indicate that encouragement and guiding from the educational institution plays an important role in the decision-making process. It has been suggested that students who received encouragement from school is 5.93 times more likely to specialize as compared to those who have not [14]. Mentor at the undergraduate level could help students by providing guidance and information. This gives the students a better grasp of perspectives in perusing specialty [15].

It is also noticed that about one-third of students are not sure whether they should proceed with specialization. This may be because final year dental students are experiencing high- stress levels

and anxiety during their final year of school or at the transitioning phase to professional life. According to Hassan Suliman Halawany, it is one of the toughest decisions to make for the graduating dental students, as they must decide whether to enter the workforce immediately following their graduation or to pursue another career option such as advanced education or specialization [9].

Aligning with our research objective 3. It was determined that there is a very weak correlation between gender and intention to pursue a speciality course. There was no statistically significant difference between genders regarding the reasons behind speciality choice [13]. In contrast to our study, a study done in London [16], it was found that gender had an influence on decision to specialise, and significantly, twice as many females compared to males were undecided on specialisation. This is understandable as female dentists, in addition to working and studying, are often committed to bringing up children, with. Childcare needs will influence the future work patterns of female dentists [10].

A study in Bristol Dental Hospital done in 2016 shows that age, ethnicity and parental occupation did not have an effect on the intention to specialize [10]. Based on the previous study, there are significant differences in the responses of the participants from each of the three countries were detected for each of the questionnaire items ($P < 0.001$). Regarding factors that may have served as motivations for career choice, the majority of dental students from each country indicated positive reasons such as interpersonal motives, caring for other people, and academic interest [10]. The findings from this study enhance our understanding of differences and/or similarities among dental students in different nations [17].

According to MDC, it was reported that 'Dental Public Health' and 'Oral Maxillofacial Surgery' have the highest increase in dental specialties registered with. This does not match with our result obtained, in which 'conservative dentistry and endodontics' and 'orthodontic dentistry' are the highest indicated preferences for specialization. This might due to the individual student's views on specialization may changes once they have experience practising life in government or private clinic, or influence by their family and career plan [18].

As it is not surprising which talent in a field is the key which lead the students to specialize. The result also matches with the research done by University of Bristol [10]. This is encouraging as it

helps to form a dental specialist who are enthusiastic toward their jobs and beneficial to patient as well. It might also help to develop a dental specialist society which has high level of clinical skills.

It is our personal opinion that a major factor which discourages dental undergraduates to specialize are financial problems. Debt levels are particularly high among dental undergraduates. Educational debt may influence the dental students to enter the workforce in order to reduce the burden instead of focusing on choosing different specialty in dentistry. Besides, the fees to further studying are relative high as well, approximately one hundred and fifty-five thousand Ringgit Malaysia. This might further reduce the interest of undergraduate students to pursue a specialty lead to decrease number of talented specialist. Hence, financial support should be considered by local government in order to avoid brain drain in dentistry

Conclusion

This study shows that a large number of undergraduates had an intention to specialise, with Conservative Dentistry and Endodontics being the most popular intended subjects. Gender and ethnicity did not have any influence on intentions to specialise. Having a 'talent in the field' had the largest positive influence on pursuing a specialist career, whilst the tuition fee needed to obtain a specialist qualification was seen as the largest negative influence.

There seems to be a need to promote mentoring activities and provide guidance and encouragement to pre-doctoral dental students in selecting the most appropriate specialty and career within their capability domain.

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