

SPECIALTY PREFERENCES AMONG UNDERGRADUATE DENTAL STUDENTS IN LAGOS STATE NIGERIA

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ABSTRACT

Background: In choosing Dentistry as a field of study and specialization, adequate information as well as the passion for the provision of oral health services should be taken into consideration.

Objectives: To determine the recent trend in career choices, aspirations and the reasons for choice of area of specialization among dental students in Lagos State, Nigeria.

Methodology: This was a cross sectional descriptive study that utilized a structured questionnaire to collect the demographic data, reasons for career choice, career aspirations, reasons for specialization, reasons for non-specialization and practice preferences from dental students aged 18 to 32 years. The data was collected and analysed using SPSS version 23. Associations between categorical variables were assessed using Chi square and Fisher exact tests. P-value <0.05 was assumed to be significant at 95% CI.

Results: A total of 139 students (males 38.8%, females 61.2%) with a mean (SD) age of 23.04±2.6 years were involved in this study. Interest in Dentistry was the major reason (74.8%) for choosing the profession by the students and 2.2% of them chose Dentistry due to peer pressure influence. Oral and Maxillofacial Surgery was the specialty of choice (34.1%) followed by Orthodontics (18.7%) and Conservative Dentistry (12.1%) respectively. Dental Radiology (1.1%) was the least popular specialty. Slightly more than half of the students, 46(50.5%) intend to practice outside Nigeria.

Conclusion: Most of the students chose Dentistry based on their interest in the profession and about half of them intend to practice outside the country. The most sought after dental specialties were Oral and Maxillofacial Surgery, Orthodontics and Conservative Dentistry respectively

Keywords: Dentistry, Career, Specialties, Dental students

INTRODUCTION

One of the most important decisions in an individual's life is to choose a field of study. This decision would impact on the individual's overall life and future.¹ Many professions and career paths are available in modern times. This makes the choice of the career to pursue in life very challenging to many individuals.² A lot of money and time would be spent in order to gain the required skills and competencies for selected careers, hence it's important that adequate thoughtfulness and carefulness is considered in choosing a career path as well as having adequate information.¹

Dentistry is defined as the "evaluation, diagnosis, prevention and/or treatment (non- surgical, surgical or related procedures) of diseases, disorders and/or

conditions of the oral cavity, maxillofacial area and/or the adjacent and associated structures and their impact on the human body; provided by a dentist, within the scope of his/her education, training and experience, in accordance with the ethics of the profession and applicable law".³

The history of Dentistry was initially documented by Dr. Vincenzo Guerini, of Naples, Italy, who wrote about Dentistry from the earliest times to the beginning of the nineteenth century.⁴

Dentistry is a noble profession that provides oral health care to all categories of people, therefore, it is important that those joining the profession and

planning to specialize have adequate information and genuine passion for provision of oral health services.² The choice of Dentistry as a career among dental students has been a subject of study for many years and in different countries around the world.⁵ The motivational factors for dental students career choices according to a study were modifiable work schedules, time to spend with their families and avenues to offer service to disadvantaged members of the populace.⁵ Altruism, which is the belief that the wellbeing of others is more important or equal to the wellbeing of oneself, has been discovered to be a major dental students' primary motivation as well as prestige, social image and financial reward.^{7,8} Also, comparing the two genders, income was more important for male students than the female ones, who mostly relied on family advice in their study of choice.^{1,9}

Over the years, Dentistry has evolved into various specialties, subspecialties and has become an advanced science. The different specialties in Dentistry include Orthodontics and Dento-facial Orthopaedics, Dental Public Health, Oral and Maxillofacial Surgery, Endodontics, Periodontics, Oral and Maxillofacial Pathology, Oral and Maxillofacial Radiology, Conservative Dentistry, Paediatric Dentistry, Oral Medicine and Prosthodontics.³ In Nigeria, Endodontics is one of the subspecialties under Conservative Dentistry. Newly graduated students have to choose between joining the workforce immediately and continuing their education and training as specialists.¹⁰

Some factors influencing specialty choice include the expectation of material rewards, societal appreciation of a specialty and specialists, response of patients to treatment by specialists and the role of specialty teachers.¹¹ Other factors that influence the choice of career and specialties include: academic interest, service to humanity, childhood dreams and personal interest, parental influence, friendliness and attitude of teachers.¹² Gender differences have been observed in the choice of area of specialization. Females have been found to prefer certain specialties compared to males, such as males preferring the surgical specialties.¹² Prestige was also a factor that contributed to choice of specialization, as males based their decisions on this while females did not. Whereas some of the highest influencing factors for women were easy compatibility with having a family and enough time for leisure activity.¹³

Other factors identified are potential financial income, self-employability, personal interest, job security, fear of litigation, possession of special skills, intellectual content of specialty, affluence of residents in the programme, length of residency, good income within

specialty, private practice opportunities, pass rate in department and grants for overseas training.^{14,15}

It has also been noted that specialization desires formed during undergraduate medical education are retained even when these undergraduates become interns.¹¹ It is therefore important to ensure that adequate career information is provided to future undergraduate dental students, so as to guide them in their career and specialty choice path.¹⁶ Specialty preferences of dental students determine to a great extent the future composition of the dental workforce, as persistent shortage and an unequal distribution of workforce across the dental specialties in Nigeria has been observed over the years.¹³ Determining the specialty preferences of dental students is very crucial in the planning of oral health services, policy formulations and in career counseling.¹²

There is limited information on determinants of specialty preferences among dental students in developing nations including Nigeria, with only a few studies investigating career motivations and perceptions.¹⁷ The provision of better incentives and training facilities in less sort after specialties have been advocated.¹⁸ It is thus imperative to acquire knowledge on the choice of specialty preferences and their determining factors among dental students in our environment, so as to aid trainers understand the student's expectations and know what specialties may need more inducements and awareness drive. Even though there are a few studies on the subject in our environment,^{19,20,13,21} the current pattern needs to be determined in view of the worsening economic situation in Nigeria, mass exodus of general dental practitioners, dental resident doctors and consultants to developed countries for better opportunities and increasing number of vacancies in old and new dental schools in Nigeria. These scenarios have the potential to change the orientation of the students in terms of whether to specialize, which specialization to select and where to practice.

AIM

To determine the specialty preferences among undergraduate dental students in Lagos State Nigeria.

OBJECTIVES

- (1) To determine the reasons for choice of Dentistry as a career.
- (2) To determine career aspirations of dental students.
- (3) To assess the specialties that dental students intend to specialize in future.
- (4) To assess reasons for choice of area of specialty.

METHODOLOGY

Study Design

This was a cross-sectional descriptive study.

Study Population

All the clinical and non-clinical dental students of the Faculty of Dentistry of the Lagos State University College of Medicine, Lagos, Nigeria and the College of Medicine, University of Lagos, Lagos, constitute the study population.

Inclusion Criteria

- Participants aged 18 years and above.
- Dental students of any level.
- Dental students who were willing to participate in the study

Exclusion Criteria

- Dental students who were not available at the time of the study
- Students who did not return a properly filled questionnaire at the end of the study

Sampling Method

Convenience sampling method was used. Approximately 50% of the Dental students were recruited from Lagos State University College of Medicine and the other 50% were from the College of Medicine University of Lagos. The Dental students were recruited consecutively until the desired sample size was attained.

Sample Size Determination

Sample Size Estimation for Cross sectional study =

$$\frac{Z_{1-\alpha/2}^2 P(1-P)}{d^2}$$

Thus 139 participants were included in the study.

MATERIALS AND METHOD

A self-administered structured questionnaire was used to collect the demographic and other relevant data from the dental students. The demographic data included the age of the students, religion, gender, marital status, educational qualifications and level of study. Other relevant data collected included reasons for career choice, career aspirations, reasons for specialization, reasons for non-specialization and practice preferences.

Data Management and Analysis

Data was analysed using a computer software programme, Statistical Package for Social Sciences Version 23. Categorical data was presented using sequencing and percentage. Association between categorical variables was assessed using Chi square and

Fisher exact tests. P-value <0.05 was assumed to be significant at 95% CI.

Ethical Considerations

Ethical approval was obtained (REG.NO.NHREC04/04/2008) from the Health Research and Ethics Committee of Lagos State University Teaching Hospital.

RESULTS

The age range of the dental students was 18 to 32 years with a mean age of \pm SD 23.04 \pm 2.6 years. Females were 61.2% while the males were 38.8%. Those in the clinical level were 72.7% and sponsorship was mostly by their parents (76.3%) (Table 1).

Table 1: Demographic characteristics of participants

Variable	Frequency (n-139)	Percentage
Age range (Mean \pm SD)	18-32 years 23.04 \pm 2.6	
Gender		
Male	54	38.8
Female	85	61.2
Clinical level		
Preclinical	38	27.3
Clinical	101	72.7
Dentist in nuclear family		
Yes	31	22.3
No	108	77.7
Dentist in extended family		
Yes	27	19.4
No	112	80.6
Sponsor		
Parent	106	76.3
Other family member	15	10.8
Self	16	11.5
Mentor	2	1.4

The reason for career choices were made mainly based on interest in Dentistry (74.8%) This was followed by job opportunity (42.4%) and prestige (34.5%). Physiotherapy (27.3%) was the next preferred course to Dentistry followed by Agriculture (26.6%) and Law (15.8%). Only 15.1% had Medicine and 15.1% Pharmacy (Table 2).

Most dental students intended to specialize after qualification (65.5%) (Figure 1).

With regards to intention to practice within or outside the country, 50.5% of the dental students intended to practice outside Nigeria; 31.9% intended to practice in Nigeria while 17.6% were undecided. The most preferred specialty by the dental students was Oral and Maxillofacial Surgery (34.1%) followed by

Table 2: Career choices and alternatives

Variable	Frequency (n-139)	Percentage
Reason for career choice		
Interest in Dentistry	104	74.8
Parent wanted me to study Dentistry	29	20.9
Desire to help people with dental problem	32	23.0
All my friends wanted to study Dentistry	3	2.2
Prestige associated with Dentistry	48	34.5
Dentist are well-paid	47	33.8
Other members of my family are Dentists	7	5.0
Job opportunity	59	42.4
Emulate my role model	10	7.2
Religious conviction to study Dentistry	4	2.9
Others	14	10.1
Any other preferred course apart of Dentistry		
Agriculture	37	26.6
Law	22	15.8
Medicine	21	15.1
Pharmacy	21	15.1
Physiotherapy	38	27.3

Orthodontics (18.7%) then Conservative Dentistry (12.1%). Dental Radiology was (1.1%) was the least popular specialty. The male students (56.3%) statistically significantly preferred Oral and Maxillofacial Surgery than the females (22%) (P value 0.039). The most common reason for selection of area of specialty was perception of very bright prospects (52.7%) followed by prestige (49.5%) then service to humanity (38.5%) while the least was role model in the area of specialty

(13.2%). Only 26.4% of students made choices based on few years to specialize. 20.9% of students were inspired by their consultant lecturers in the selected specialty. 30.8% of the students once met a good dentist in the specialty chosen. The major reasons for non-specialization were wanting to make enough money early and to devote time to other activities other than dentistry (Table 3).

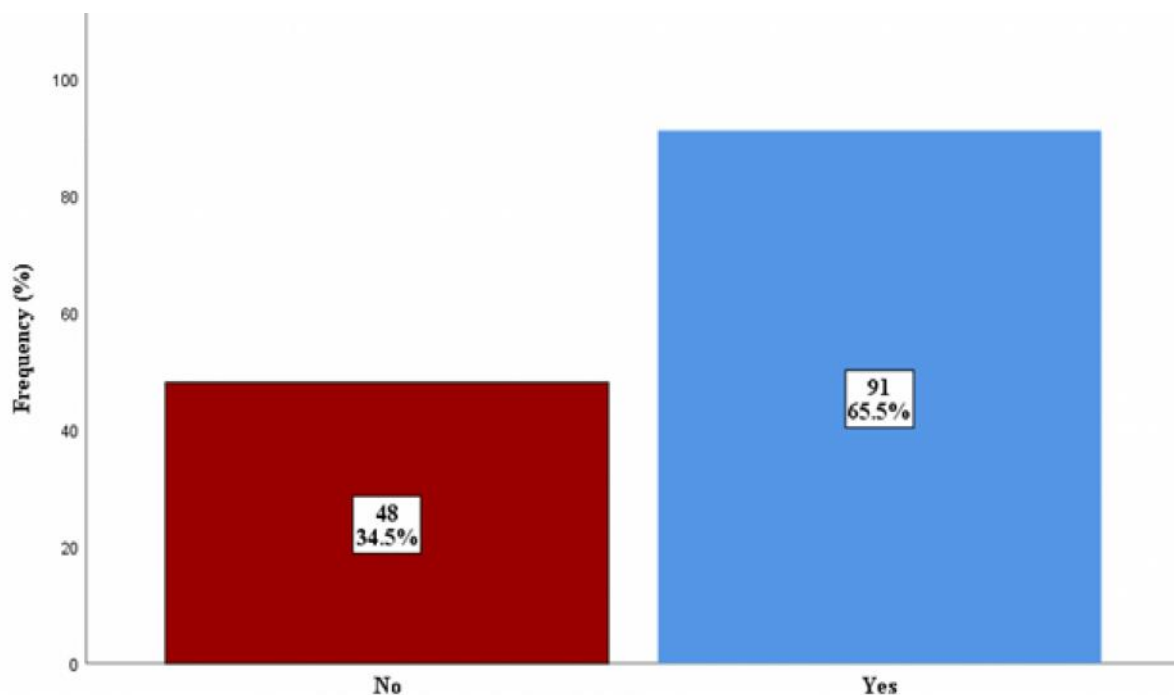
**Figure 1:** Intention to specialize after qualification

Table 3: Preferred country of practice, area of specialization, reasons for selection of area of specialization and non-specialization

Variable (Multiple response)	Total (n=91)	Male (n=32)	Female (n=59)	p-value
Intended country of practice				
Nigeria	29(31.9)	14(43.8)	15(25.4)	0.143
Outside Nigeria	46(50.5)	12(37.5)	34(57.6)	
Undecided	16(17.6)	6(18.8)	10(16.9)	
Intended area of specialization (n=91)				
Oral and Maxillofacial Surgery	31(34.1)	18(56.3)	13(22.0)	0.039*
Paedodontics	5(5.5)	1(3.1)	4(6.8)	0.434
Orthodontics	17(18.7)	3(9.4)	14(23.7)	0.247
Prosthodontics	5(5.5)	1(3.1)	4(6.8)	0.893
Conservative Dentistry	11(12.1)	4(12.5)	7(11.9)	0.992
Endodontics	5(5.5)	2(6.3)	3(5.1)	0.742
Periodontology	5(5.5)	1(3.1)	4(6.8)	0.811
Community Dentistry	3(3.3)	0(0.0)	3(5.1)	0.794
Oral Medicine	2(2.2)	1(3.1)	1(1.7)	0.801
Oral Pathology	4(4.4)	0(0.0)	4(6.8)	0.931
Dental Radiology	1(1.1)	0(0.0)	1(1.7)	0.933
Forensic Dentistry	2(2.2)	1(3.1)	1(1.7)	0.381
*Reason for selection of area of specialization				
Service to humanity	35(38.5)	15(46.9)	20(33.9)	0.224
Job satisfaction	32(35.2)	14(43.8)	18(30.5)	0.207
Self-fulfilment	34(37.4)	15(46.9)	19(32.2)	0.167
Specialty have very bright prospect	48(52.7)	15(46.9)	33(55.9)	0.409
Personal interest	19(20.9)	8(25.0)	11(18.6)	0.476
I possess required personality trait	31(34.1)	11(34.4)	20(33.9)	0.963
Prestige	45(49.5)	16(50.0)	29(49.2)	0.938
Better financial remuneration	22(24.2)	12(37.5)	10(16.9)	0.029*
Close association with dentist in the specialty	21(23.1)	10(31.3)	18(30.5)	0.173
Flexible working hours and condition	32(35.2)	15(46.9)	17(28.8)	0.085
Employment opportunity	28(30.8)	9(28.1)	19(32.2)	0.687
Role model in the area of specialty	12(13.2)	8(25.0)	4(6.8)	0.014*
It requires few years to specialize	24(26.4)	8(25.0)	16(27.1)	0.827
Inspired by consultant/ lectures in this specialty	19(20.9)	9(28.1)	10(16.9)	0.210
Once met a very good dentist in this specialty	28(30.8)	8(25.0)	20(33.9)	0.380
*Reason for non-specialization				
Takes many years to specialize	11(22.9)	4(18.2)	7(26.9)	0.473
Want to make enough money early	16(33.3)	8(36.4)	8(30.8)	0.682
Want to have enough time for my family	8(16.7)	5(22.9)	3(11.5)	0.300
Want to devote time to other activities other than dentistry	16(33.3)	7(31.8)	9(34.6)	0.838
Want to start a family	8(16.7)	5(22.7)	3(11.5)	0.300

*Multiple response

DISCUSSION

In the present study, majority of dental students were females which was similar to another study.⁸ This may be due to an increasing number of females gaining entry into the profession internationally.²² For career choices made, most of the students made their career choices based on their interest in Dentistry as seen in other studies.^{19,23} In this present study the desire to help people was a poor motivational factor for choosing to study Dentistry in contrast to another study.⁷ This may be due to the present poor economic situation in Nigeria. This may eventually lead to loss of interest in the dental profession as reported by a previous study.¹⁹

This present study showed that the students' career choices were not strongly influenced by their parents while in an Indian study the majority of the students were encouraged by their parents to study Dentistry.²⁴ This may be due to most students in this present study, not having a history of dentists in their nuclear or extended family as seen in another study.²³ In this present study only a few dental students were under the influence of peer pressure or were emulating their role models, this corroborates a previous study by Lukandu *et al.*²

Social prestige is important to job satisfaction of dentists.¹ In this study about a third of the student population felt Dentistry was prestigious while another third felt dentistry was lucrative which then informed their choice of Dentistry as seen in a previous study.⁸ Likewise almost half of the students made their choice to study Dentistry based on good job opportunity which was in line with a study in Iran.¹

Physiotherapy was the next preferred course to Dentistry followed by Agriculture and Law. Only few students chose Medicine and Pharmacy in this study contrary to a previous study that reported that a half of the students that did not have dentistry as their preferred choice, chose to have studied medicine.² This might be due to less number of years of study of Physiotherapy and less stress involved in its study compared to medicine.

Majority of dental students in this study intended to specialize after qualification, this was comparable to that of an Indian study by Aggarwal et al.²⁴ Half of the dental students intended to practice outside Nigeria which might be due to better prospects and security of life as well as properties while a few were undecided. Of the total students, just over a third of the students wish to practice in Nigeria which is similar to a previous study⁹ involving medical students. This may be due to the current mass efflux of professionals from Nigeria to developed countries.

Majority of students in this study were interested in specializing in Oral and Maxillofacial Surgery, this might be due to a variety of professionally interesting work, academic atmosphere and positively impacting the quality of life of patients in Oral and Maxillofacial Surgery.²⁵ The next preferred specialties were Orthodontics and Conservative Dentistry; this corroborates a similar study in Nigeria.¹⁸ The male students statistically significantly preferred Oral and Maxillofacial Surgery than the females (P value 0.039). This corroborates a previous study by Arowojolu et al¹⁸ where Oral and Maxillofacial Surgery was adjudged to be the most tasking and most stressful specialty thus making the females to shy away from it. The female students preferred Orthodontics more than the male students, although, not statistically significant. The less preferred areas of specialty were Community Dentistry, Forensic Dentistry, Oral Medicine and the least preferred area of specialty in this study was Dental Radiology as seen in a Nigerian study.¹⁸ This might be due to poor awareness of these specialties. The scanty population of dental students that preferred Oral Pathology were all females, although, not statistically significant. This might be due to them having more flexible working hours and conditions.

In this study, the most common reason for selection of area of specialty was perception of very bright prospects followed by prestige. In line with a Nigerian study¹⁴ that reported that affluence and income were important in making specialty choices. The males were statistically significantly influenced by perception of better financial remuneration than the females (P value 0.029). This may be due to the African male's perception of manhood as his ability to provide for his family.²⁶ Very few students made their specialist choices based on role models, in which the males were statistically significantly more influenced by role models than the females (P value 0.014).

The major reasons for choosing not to specialize were: to make enough money early and devotion of time to other activities other than dentistry.

CONCLUSION

Most of the students made their career choices based on their interest in Dentistry and about half of the students intend to practice outside the country. More than half of the dental students plan to specialize and the most sought after specialties were Oral and Maxillofacial Surgery followed by Orthodontics then Conservative Dentistry while the least was Dental Radiology. Choices of specialty preferences were majorly based on perception of bright prospects followed by prestige then service to humanity.

Recommendation

More avenues should be sought to attract students to specialize and practice dentistry within the country by making it more lucrative and fulfilling especially for the young dentist.

Conflict of Interest

There was no conflict of interest.

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