

Post- Graduate Dental Education: The Ghanaian Experience

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Abstract

Background: The maintenance of standards in dental post-graduate education requires adequate and equal distribution of specialists in all aspects of dentistry.

Aim/objective: The primary aim of this study was to determine the factors that influence the choice of field of specialization in dentistry and to identify current trends of specialization in Dentistry.

Methods and materials: A well-structured Google form questionnaire was designed and submitted to Residents (current trainees and Members) through their emails. The data collected included area of specialty, training Centre and the factors that influenced the choice of specialty.

Results: Since the inception of the GCPS, which had its first Membership graduation in 2007, 902 Members and 76 Fellows had been trained as of October 2017. In Dental surgery, a total of 40 Members and 7 Fellows had been trained which represented 4.43% and 9.21% respectively of the total trained by GCPS. The majority reason for the choice of a particular specialty in dentistry was "Interest/Passion" 31(22.14%) followed closely by the "Availability of trainers" 27 (19.29%). The least recorded reason was for "Academia" 8(5.71%).

Conclusion: Majority of these specialist/Members were in the Oral and Maxillofacial and Restorative Dentistry and then followed by orthodontics. The major reasons for choosing a particular specialty in Dentistry were "Passion/Interest" followed closely by "Availability of trainers" and "financial gains". There was not a single trained Specialist in Community Dentistry, Oral Medicine and Paediatric Dentistry. Majority of our Residents were sponsored by GHS followed by the Teaching Hospital. The least sponsors of Resident training were the two Dental schools and the CHAG.

Keywords: Post graduate; Dentistry; Education; Specialty; Choice

Introduction

Dentistry has evolved to include different specialties however dentistry in Ghana is still limited access with the current dentist population ratio of approximately 400 to a national population of 29 million. In a study by Hewlett et al. [1], her concluding were 'Postgraduate Dental training in Ghana has come a long way, nevertheless after 26 years, there is not much to show for all the effort and money spent. This may be partly because much attention was focused in the past, on establishing and sustaining the two dental schools in Ghana that having been accomplished, it is time now to re-focus our energies into training the next generation of trainers. Not only would this ensure that highly skilled and competent providers are produced to keep the reproduction chain going, but also, it is the only sure way of sustaining the two dental schools by providing a constant source of well-qualified faculty and a meaningful and balanced oral health care delivery system. The maintenance of standards in dental post-graduate education requires adequate and equal distribution of specialists in all aspects of dentistry". Equal and adequate distribution of specialist is imperative in the effective utilization of Dentistry in Ghana.

The factors influencing the choice of specialization in the Dental profession are vital to identify the expectations of the profession [2]. Several studies have shown the tendency of majority of students to prefer to continue their education towards a specialty degree [3-6]. In a survey of ten graduating classes at Harvard School of Dental Medicine [7] regarding students' specialty choice and factors influencing that choice the findings were that the largest percentage of students chose "enjoyment of providing the specialty service" as the factor most influencing their specialty choice. "Prior Dental school experience" and "faculty influence" were greater influences for students pursuing specialties other than those pursuing postdoctoral general dentistry. In

the above study [8], factors related to mentoring especially influenced students choice in pursuing a particular specialty. This demonstrated the importance of student experiences outside direct patient care for exposure to the work of specialists beyond the scope of undergraduate dental training.

A report of the American Dental Education Association (ADEA) [9] noted that, on average, 50 percent of senior dental students from 1985 to 2008 chose practicing General dentistry as an immediate plan after graduation independent of gender or debt accrued at graduation. Seventy-three qualified dental surgeons were involved in a cross-sectional study [9] mainly to highlight their preference for specialties. The specialty preference in order of popularity ranged from Oral and Maxillofacial Surgery, Orthodontics, Conservative dentistry, Paedodontics and periodontology.

In a study done by Isiekwe et al. [10] in Nigeria in West Africa to find out predictors of postgraduate Dental specialty training choice among dental surgeons, skills and content were the most highly-rated factors affecting choice of postgraduate training among Nigerian Dental graduates but they were not predictors. The deciding highly-predictive factors appeared to be income, work hours, private practice

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opportunity and to a lesser extent, affluence. There was a significant female predilection for Pediatric Dentistry, Restorative Dentistry and Preventive Dentistry while Oral and Maxillofacial surgery enjoyed a male predilection [10]. The primary aim of this study was to determine the factors that influence the choice of field of specialization in dentistry and to identify current trends of specialization in Dentistry.

Methods and Material

This was a prospective cross sectional survey of specialists and current trainees' with the Ghana College of Physicians and Surgeons (GCPS). A well-structured Google form questionnaire was designed and submitted to Residents (current trainees and Members) through their emails. The data collected included area of specialty, training Centre and the factors that influenced the choice of specialty. Respondents were assured of confidentiality of their personal identity and the information they provided to encourage them to be more objective with their answers. The questionnaire was filled online and submitted as requested. There were some open-ended questions which required non-structured responses. Respondents were asked to give four reasons that influenced their choice of specialty. These responses were summarized, categorized and analyzed. Descriptive Statistical analyses were used for the quantitative data.

Results

Data collection and analysis

The total respondents were 35 out of 70 (made up 40 members and 30 pre-members) and giving a response rate of 50.00%. This was made up 30 current trainees (Pre-Memberships) and 5 Post-Memberships. Eighty percent (80.0%) attended the University of Ghana School of Medicine and Dentistry while (20.0%) were affiliated with the Kwame Nkrumah University of Science and Technology Dental School. The age range for respondents was from 27 to 39 years and the average age was 34.3 years. Since the inception of the GCPS, which had its first Membership graduation in 2007, 902 Members and 76 Fellows had been trained as of October 2017. In Dental surgery, a total of 40 Members and 7 Fellows had been trained which represented 4.43% and 9.21% respectively of the total trained by GCPS.

Primary employer of respondents

Table 1 showed the primary employer of the respondents. Majority of the respondents were employed by the Ghana Health Services (65.71%) and only 5.72 % were employed by the two current Dental schools in Ghana.

Frequencies of members and fellows with their respective specialties

Table 2 showed the distribution of Members and Fellows with their respective specialties. The majority of Members trained so far had their specialties in Oral and Maxillofacial surgery (37.50%), Restorative

Employer	Frequency and Percentage
Ghana Health Services (GH)	23(65.71)
Teaching Hospitals (TH)	6(17.14)
37 Military Hospital (MH)	3(8.57)
Dental School (DS)	2(5.72)
Christian Health Association of Ghana (CH)	1(2.86)
TOTAL	35(100.0)

Table 1: Showing Primary Employer of Respondents.

Dentistry (30.00%) and Orthodontics (22.50%). There were no trainees recorded in the fields of Oral Medicine, Community dentistry and Paediatric dentistry. According to Reasons for the choice of a particular specialty, 3(37.00%) of the 7 Fellows trained so far were in Oral and maxillofacial surgery and followed by Periodontology 2 (25.00%) and Restorative 1 (12.00%) oral pathology 1 (12.00%).

Distribution of residents by training institution- this is not from respondents

Table 3 shows the current training institutions and the number of Residents in training. Komfo Anokye Teaching Hospital has the highest number of Pre-Membership trainees of 14 (46.67%) followed by 13(43.33%) from Korle-Bu Teaching Hospital. 77.78% of the current trainees in the Fellowship were in the Korle-Bu Teaching hospital.

Reasons for the choice of a particular specialty

Table 4 showed the determinants for the choice of specialty in Dentistry. The majority reason for the choice of a particular specialty in dentistry was "Interest/Passion"31 (22.14%) followed closely by the "Availability of trainers" 27 (19.29%). The least recorded reason was for "Academia" 8 (5.71%).

Specialty	Frequency and Percentage	
	Members	Fellows
Restorative	12(30.00)	1(12.50)
Oral/maxillofacial surgery	15(37.50)	3(37.50)
Periodontology	2(5.00)	2(25.00)
Oral pathology	2(5.00)	1(12.50)
Oral medicine	0(0.00)	0(0.00)
Orthodontics	9(22.50)	0(0.00)
Paedodontics	0 (0.00)	0(0.00)
Community dentistry	0(0.00)	0(0.00)

Table 2: Showing members and their specialties.

Year	Korle - Bu Teaching Hospital		Komfo Anokye Teaching Hospital		Sunyani Regional hospital		37 Military Hospital	
	M	F	M	F	M	F	M	F
2015	1	0	2	0	0	0	0	0
2016	3	4	8	0	1	0	2	0
2017	9	2	4	0	0	0	0	1
2018	0	1	0	1	0	0	0	0
Total (30) Membership(M)	13	-	14	-	1	-	2	-
Total (9) Fellowship(F)		7	-	1	0	-		1

Table 3: Showing the distribution of residents and their current training institutions.

Reason	Frequency and Percentage
Passion / Interest	31(22.14)
Fellowship Status for Academia	8(5.71)
Patients' needs	25(17.89)
Availability of Trainers	27(19.29)
Training Centre closer to family Proximity of centre to family	9(6.43)
Financial gains	20(14.29)
Improved quality of family life	11(7.86)
Clear career Development and Progression	9(6.43)

Table 4: Showing the reason for the choice of specialty.

Discussion

The main Post graduate institutions for the training of specialist in Ghana are the Ghana College of physicians and surgeons (GCPS) and the West African college of physicians and surgeons (WACPS). In this current study, all the respondents were enrolled in the GCPS programme. A small percentage (5%) had completed the Membership training. The major primary employer of the respondents was the Ghana Health Service (GHS). Most doctors and Dental surgeons were employed by the GHS in contrast to developed countries where majority of dental surgeons are into Private practice. Pursuing postdoctoral General dentistry training and engaging in General dentistry private practice were the most common reported plans after completion of dental school [8]. There is the likelihood that the business aspect of Dentistry is not well developed in our two Dental schools.

In Ghana, the primary employer is also the sponsor of a candidate for Residency programme. This means that, majority of our Residents were sponsored by GHS followed by the Teaching Hospitals. The two Dental schools and the CHAG sponsored the least number of residents. This demonstrates that, the Dental schools were either not mentoring candidates as pertains in other institutions [9] or did not have the resources to sponsor Residency training. This is not desirable to ensure faculty development of the dental schools.

The major training centres were the Komfo Anokye and Korle-bu Teaching Hospitals which were affiliated with the dental schools and employed as consultants of the various fields of specialization and needed to train the residents.

Available data from GCPS indicated a total of forty Members had been trained so far in the Faculty of Dentistry. Majority of these specialists were in the Oral and Maxillofacial and Restorative Dentistry and followed by orthodontics. This finding was similar to a related study in the sub-region [5,10]. Evident from this data, was that, there had not been a single member or fellow trained in the specialties of Community Dentistry, Oral Medicine and Paediatric Dentistry.

The Fellows were from entirely the fields of Oral and Maxillofacial Surgery, Periodontology, Oral Pathology and Restorative dentistry. This phenomenon could also be as a result of availability of trainers in the various training institutions in the two Dental school which happened to be the major training centres in Ghana. This finding was similar to a study in Nigeria [2,10] where Dental Radiology, Dental Anaesthesia and Oral Medicine were not considered at all by the respondents. The most favoured specialties (Oral and Maxillofacial surgery and Orthodontics) were those which were considered to be lucrative while the less favoured (Dental Radiology, Dental Anaesthesia and Oral Medicine) ones were considered to be less lucrative and challenging [11].

Community dentistry, Oral Medicine and Paedodontics of Dentistry were not seeing any meaningful growth. Even though according to table 3.0, there had been a tremendous increase in the number of Residents over the last five years, there were no trained Members/Fellows in these specialties in dentistry from GCPS. This trend is disturbing since these departments are equally needed in the training of future Dentists in Ghana.

The respondents were asked to give the reasons behind the choice of a particular specialty in Dentistry. The major reasons were "Passion/Interest" which was similar to Harvard School of Dental Medicine [7] where 'Enjoyment of providing care' in a specialty or field was identified as the single most important factor in choosing a specialty career. The next major reason was "Availability of trainers" and "Financial gains.

A worrying occurrence was the fact the "Academia" was the least motivation why Resident chose a particular specialty. This is likely to be due to the reason that most prospective Residents are not encouraged or actively mentored by Academic staff as is done in other study centers [8]. Saeed et al. [7] suggests that Dental schools should increase mentoring efforts to help students make career decisions based not on financial burden but rather on personal interest in the specialty, which would be likely to have a more satisfying result for them in the long run [3,12]. The other reason could be that, most of the respondents were not sponsored for training by the two Dental schools in Ghana and therefore the desire to join Academia was not paramount.

Currently in Ghana, it is known that lecturers in the various Dental schools receive less in terms of remuneration compared to their counterparts in the Ministry of Health. This in our views is a disincentive to most prospective Residents. Academia, therefore was not attractive enough to be a major reason for selecting a specialty in Dentistry. If you sponsor, then you can direct which specialty a candidate should go into. This could be the reason why some specialties that are considered to be less lucrative and interesting was not receiving enough attention from prospective Residents. Because the Dental school did not sponsor trainees, they could not attract trainees into the less lucrative fields of dentistry.

Most residents wanted to pursue a Passion/Interest and challenging specialty. This was seen in this present study where some respondents indicated "Patient's needs" as a determinant of the choice of specialty. Our findings about the reasons for the choice of a particular specialty is different another study in Nigeria [10]. The predictive factors appeared to be income, work hours, private practice opportunity and to a lesser extent, affluence. According to Hewlett et al. [12], a meaningful, balanced oral health care delivery system and the maintenance of standards in dental post-graduate education requires adequate and equal distribution of specialists in all aspects of dentistry. This has not been the case according to this current study.

Conclusion

A total of forty Members and seven Fellows in Faculty of Dentistry have been trained which represented 4.43% and 6.58% respectively of the total trained Members and Fellows from GCPS. Majority of these specialist/Members were in the Oral and Maxillofacial and Restorative Dentistry and then followed by orthodontics. The major reasons for choosing a particular specialty in Dentistry were "Passion/Interest" followed closely by "Availability of trainers" and "financial gains". There was not a single trained Specialist in Community Dentistry, Oral Medicine and Paediatric Dentistry. Majority of our Residents were sponsored by GHS followed by the Teaching Hospital. The least sponsors of Resident training were the two Dental schools and the CHAG. The two dental schools in Ghana need to adopt strategies to develop human resource particularly in the deprived specialties after a decade of the existence of GCPS.

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