

Evaluation of the Orthodontic Training Programme by Residents in Nigeria.

Isiekwe GI^a, Olurotimi I^b, Aikins EA^c.

Abstract

Background: Postgraduate Orthodontic training in Nigeria began over forty years ago at the Lagos University Teaching Hospital, Lagos, Nigeria. The Orthodontic residency program in Nigeria currently runs for five to six years, culminating in the award of a fellowship in orthodontics by either the National Postgraduate Medical College of Nigeria or the West African College of Surgeons

Aim and Objectives: To assess the perceptions of orthodontic residents in Nigeria on postgraduate orthodontic training.

Design: A cross-sectional descriptive study

Setting: Annual Scientific Conference of the Nigerian Association of Orthodontists, held in Lagos, Nigeria in October 2014.

Subjects and Methods: This study was carried out amongst orthodontic residents attending the conference stated above. Data collection was via self-administered questionnaires. The self-administered questionnaires contained questions assessing different aspects of the residency training program and their future plans. Data analysis was carried out using SPSS version 19.

Results: The response rate was 92.9%, with 26 residents consenting to participate in the study. This represented over 80% of orthodontic residents in the country at that time. About 46% (12) of the respondents reported that the clinical training received was sufficient, while about 27% (7) reported the training as being insufficient. With respect to research based training, 73.1% (19) rated the training received as insufficient, with 19.2% (5) rating it as satisfactory. When asked their future plans, 15.4% (4) desired to engage in a full time career in teaching/research post-graduation, with the rest opting for private practice.

Conclusion: Orthodontic residents in Nigeria believe that although sufficient clinical training is currently being received in the residency training, certain aspects of the training, particularly research based training, are still grossly insufficient.

Keywords: Residents Evaluation, Orthodontic residency training in Nigeria.

Authors' Affiliations

^aSenior Lecturer/Consultant Orthodontist

Department of Child Dental Health

^bRegistrar in Orthodontics

Department of Child Dental Health

Lagos University Teaching Hospital

Idi-araba, Lagos.

^cSenior Lecturer/Consultant Orthodontist

Department of Child Dental Health

Faculty of Dentistry,

College of Health Sciences,

University of Port-Harcourt/University of

Port-Harcourt Teaching Hospital,

Port-Harcourt, Rivers State.

Correspondence:

Isiekwe GI

College of Medicine, University of Lagos

Idi-araba, Lagos.

Email: ikisiekwe@yahoo.com, iisiekwe@unilag.edu.ng

Phone no. +2348052930439

Introduction

Postgraduate dental training in Nigeria involves several disciplines of dentistry, including orthodontics, and is regulated by two examination bodies, namely the National Postgraduate Medical College of Nigeria (NPMCN)

and the West African Postgraduate Medical College (WAPMC). Indeed, Orthodontic residency training in Nigeria, began over forty years ago at the Lagos University Teaching Hospital, Lagos, Nigeria.^{1,2} There are now seven post graduate Orthodontic residency programs in the country and slightly over forty locally trained orthodontists have graduated from these programs, thus far.

The postgraduate training programme in Orthodontics for both Colleges in the country (NPMCN and WAPMC) runs through three levels namely: the primary, junior residency and senior residency stages. The primary stage involves the basic medical and dental sciences, while the junior residency (Part 1) is designed to equip residents with relevant competence for routine management of all common oral and dental conditions at a level of proficiency higher than that of the undergraduate. Finally, the senior residency (Part II) seeks to produce a specialist dental surgeon with definite expertise in Orthodontics.¹

A review of available literature shows that few studies have previously been carried out to assess residents' perspectives on orthodontic residency training programs in Nigeria.²⁻⁵ While some of these studies focused on the Orthodontic training program in entirety;^{2,3} others focused on specific aspects of the program.^{4,5} The importance of such studies cannot be over-emphasized as such periodic review

provides the examination colleges and training institutions with a feedback on possible areas of improvement required in the training programs. Indeed, a major justification for this study is the fact that the residents, who themselves are recipients of the training programme, would be allowed to evaluate the programme. In other parts of the world, such as the United States, Canada and the United Kingdom, similar studies have been carried out with the aim of improving the quality of postgraduate orthodontic training provided.⁶⁻⁸

Thus, the aim of this study, was to carry out an evaluation of the orthodontic training programme in Nigeria, based on the perspectives of the residents. Thus, the study looked at the didactic and clinical treatment components of training; number of clinical cases undertaken during training, completion rates, and the research component of the training. In addition the study also assessed the overall satisfaction of orthodontic residents with their programmes and their preparedness to practice orthodontics upon graduation.

Materials and Methods

Every aspect of the research was in full accordance with the World Medical Association Declaration of Helsinki. This was a cross-sectional descriptive epidemiological study. A-19-item questionnaire was distributed to twenty-eight of the thirty-three orthodontic residents, enrolled in different residency training programmes across the country, at that time. These twenty-eight residents were attending the Annual scientific conference of the Nigerian Association of Orthodontists in Lagos. The survey instrument was developed based on the instruments used in a similar study carried out among Orthodontic residents in the United States,⁶ and Canada⁷.

The survey was divided into the following segments: 1, demographics (gender, year of program) and training center 2; reasons for choosing Orthodontics as a specialty area, 3) assessment of the content and time allocation and format of the program, including research exposure; 4) types of orthodontic treatment they would complete during training including care for cleft patients; 5) degree of collaboration with other specialties during patient care 6) future plans. Questions on the survey were multiple choice and close ended. Data was compiled into a Microsoft Excel spreadsheet and categorized by demographic variables. Data analysis was carried out using the Statistical Package for Social Sciences (SPSS) version 19.

Results

A total of twenty-six out of the twenty-eight residents who participated in the survey, returned completed questionnaires. Thus, the response rate was 92.9%. Gender distribution of the respondents revealed that fifteen (57.7 percent) were male and eleven (42.3 percent) were female. Sixteen (61.5 percent) of them were senior registrars, while ten (38.5 percent) were junior registrars. Based on the number of residents being trained, Lagos University Teaching Hospital (LUTH) had the highest number of orthodontic residents, with eleven residents (42.3 percent) and this was followed by Obafemi Awolowo University Hospital (OAUTH) with four residents (15.4 percent). (Table 1)

A passion for orthodontics was the most dominant factor influencing the residents' decision to pursue a career in Orthodontics, as this option was selected by 86.6 percent of the residents followed by intellectual stimulation/challenge (42.3 percent) and a positive dental school experience in Orthodontics (38.5%), respectively. (Figure 1)

Ten residents (38.5 percent) felt that the residency training program offered sufficient amount of didactic teaching sessions/protected teaching time, while sixteen of them (61.5 percent) felt otherwise (Figure 2). Twelve (46.2 percent) of the respondents reported that the clinical training received in orthodontics was sufficient, while only 7 residents (26.9 %) reported that the clinical training received was insufficient (Figure 3). Only 5 of the residents (19.2%) indicated that the research based training received was sufficient, while 73.1% (19 reported that it was insufficient (Figure 4). Eleven residents (42.3% responded that the residency training program offers sufficient exposure to the different orthodontic treatment philosophies and fifteen (57.7%) of them responded otherwise.

When asked about the number of orthodontic patients they were currently treating, (six residents) 28.6%, reported that they had between twenty-one to forty patients; while 23.8% (five residents) had between ten to twenty patients. Only 3 residents (14.3%) had over sixty patients. Four residents (19%) reported that they would be able to complete at least thirty cases before the end of their training. About 43% (9 residents) reported that they would only be able to complete ten cases.

With respect to the dental specialties that residents had collaborated with most in their training, respondents indicated that most of their collaborations were with Paediatric dentistry (92.3%), Oral surgery (88.5%) and Periodontology

(84.6%percent), respectively. The least level of collaboration was recorded with Oral pathology (23.1%).

When asked about their future plans, ten residents (38.5%) reported that they wanted to practice orthodontics by starting a private practice, while nine residents (34.6%) reported that they would practice orthodontics as an Associate. Only four residents (15.4%) reported that they wanted to go into a full time career in teaching and research. When asked if they would be well-equipped to join the workforce after training, 24 residents (92.3%) responded positively; while only two residents (7.7%) responded negatively (Figure 5).

FACTORS WHICH INFLUENCED RESIDENTS' DECISION TO PURSUE A CAREER IN ORTHODONTICS

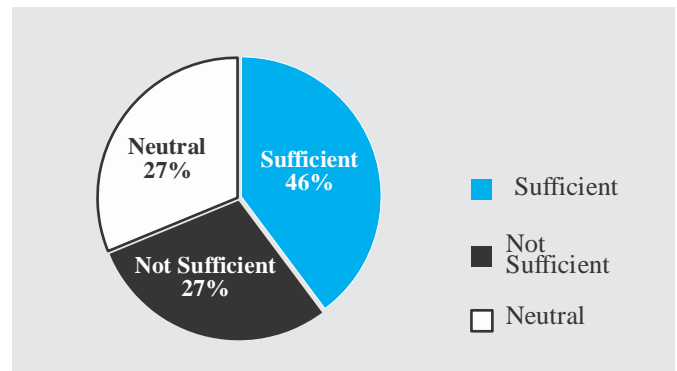
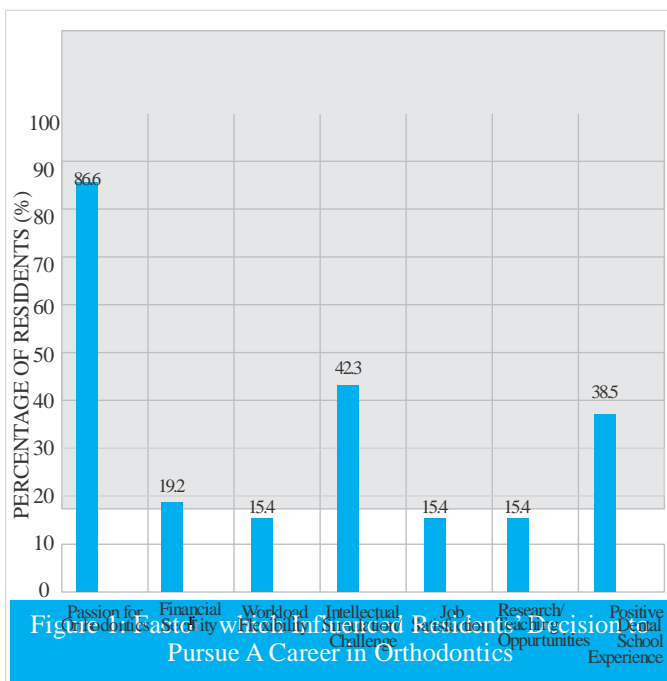


Figure 3: Residents' Rating of the Clinical Training Received in Orthodontics

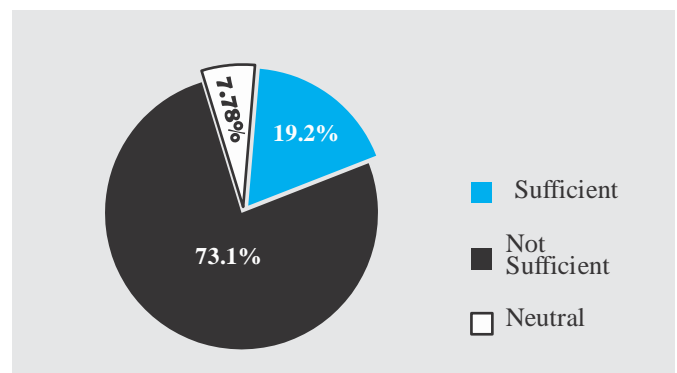


Figure 4: Residents' Rating of Research Based Training Received

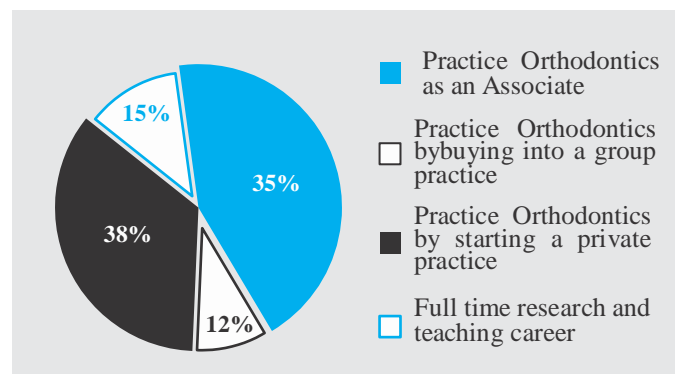


Figure 5: Future Plans of Orthodontics Resident in Nigeria

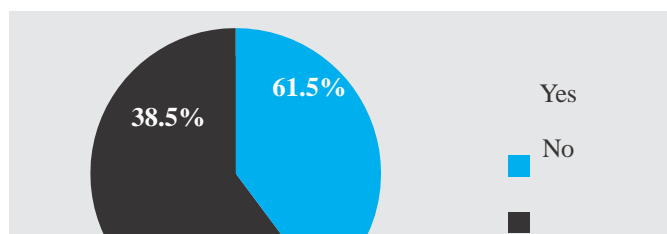


Figure 2: Residents' Perspectives on Whether or Not the Program Offered Sufficient Amount of Didactic Teaching Sessions?

Discussion

Very few studies have been carried out to assess the level of satisfaction and perceptions of dental residents in Nigeria, regarding the available postgraduate training programmes, particularly with respect to the scope of didactic and clinical training received. With respect to postgraduate orthodontic training in particular, very limited studies have been carried out in this regard.²⁻⁵ Thus, this study is unique in that it provides a follow-up assessment to previous

studies. Its findings are also very relevant, bearing in mind the fact that over 80% of the orthodontic residents in the country at this time, participated in the survey.

The findings from this study, in which a passion for orthodontics was the major reason highlighted by the residents' as motivating their choice of Orthodontics, has previously been reported in a similar study.² The second major factor selected by the residents as influencing their choice of Orthodontics, as a specialty area is the diagnostic stimulation and challenge it presents and this has also been previously reported.² This finding reinforces the report from a previous study on the emerging trends in dental specialty choice in Nigeria, which reported 'diagnostic challenges' as the most important influencing factor.¹⁰ Intellectual challenge was also cited as the major motivation for future specialization in Orthodontics, by dental students in a Saudi Arabian Dental School.¹¹

The findings from this study in which less than forty percent of the residents felt that the Orthodontic residency training program offered sufficient time for didactic teaching sessions/protected teaching, is in contrast with similar studies carried out in other climes.^{6,7} This contrast in findings may be as result of the fact that residency training in Nigeria is Fellowship based and not considered as an academic program, thus greater emphasis is placed on clinical training and very limited time, if any, is allotted to didactic teaching sessions. In contrast, the orthodontic training programs in the US and the United Kingdom are academic programs, which combine didactic sessions with a very high clinical component, often resulting in the award of a Master's degree in Orthodontics.

The limited amount of time dedicated to didactic teaching may also be the reason why a large majority of the residents in this study, reported that they had received very limited research based training. For majority of the residents, their only encounter with serious research is with respect to their preparation of the dissertation for the Part II fellowship examination which should not be so. This problem is not limited to Nigeria alone as international leaders in Orthodontic education have also reported that limited research based training is currently being received by Orthodontic residents, due to the greater emphasis being placed on clinical training, at the expense of research.^{11,12} Increased research experience will likely make the residents more capable of critically evaluating and appreciating the orthodontic literature.¹² In addition to this, it would

better prepare those interested in academia for their future roles.

The clinical nature of the orthodontic residency training program in Nigeria, may explain the reason why only about 30% of the residents, reported that the clinical training received was insufficient. However, it is instructive to note that about 60% of the residents reported that the program did not provide sufficient exposure to the different orthodontic treatment philosophies. This finding is in contrast with studies carried out in the United States⁶ and Canada⁷. Exposure to a broad range of treatment philosophies during Orthodontic training is desirable, in light of the myriad of treatment approaches possible.⁶ This implies that a lot more needs to be done to ensure that orthodontic residents in Nigeria are exposed to different treatment philosophies as this would arm them with the skills to provide a wide variety of treatment options to patients post-graduation.

Only about 20% the residents, reported that they would be able to complete at least thirty patient cases by the end of the residency training; while about twice the same number of residents reported that they would only be able to complete ten cases. This is in sharp contrast with that recorded for a study carried out among Canadian residents in which all the residents recorded that they expected to complete a minimum of thirty patient cases from start to finish and twenty-five percent said they will start and finish more than seventy cases.⁷ The fact that the duration for the Senior residency training in Orthodontics in Nigeria ranges from three to three and a half years which is comparable to that for the Canadian system implies that there may be some factors affecting the patient completion rate among Nigerian Orthodontic residents. These factors may include, limited availability of patients in low volume centers, infra-structural challenges such as poor electricity supply and operator challenges such as poor treatment mechanics in high volume centers. There is an urgent need to address these challenges as an increased patient completion rate leads to more clinical experience for the Orthodontic resident.

When residents in this study were asked to indicate the dental specialties they most collaborated with and could select all disciplines that applied, they indicated that most collaboration took place with Pediatric dentistry, oral surgery and periodontology. This finding highlights the importance of formalized interdisciplinary training for Orthodontic residents in the country, while in training. These sessions can be achieved by organizing seminars and treatment planning sessions with instructors and specialists in

these areas.⁶ This also reinforces the importance of the mandatory pre-Part 1 rotation through these different specialties, which is recommended by both postgraduate Colleges in the Country.

With respect to the future plans of orthodontic residents in the country, it is worthy of note that only 15 percent of the residents were interested in going into a full time research and teaching career. A similar finding has been reported in other climes.^{6,7} A possible reason for this is the greater emphasis placed on clinical training during the residency training programme which has resulted in graduating residents being ill-prepared to take up roles in academia. This is further complicated by the fact that private orthodontic practice is often more financially rewarding than a full time research and teaching career. Thus, most of the residents are often more intent on acquiring clinical skills which would be useful for private practice in the future, as against research and teaching skills. However, a major solution to this may be to ensure that specialists are allowed to combine a career in research and academia, with private orthodontic practice which may be intra-mural or extra-mural, provided it conforms to the regulations of the Medical and Dental Council of Nigeria.

The fact that over ninety percent of the residents reported that the residency training programme would adequately equip them to join the workforce is a positive indication that the residents in Nigeria have a high level of confidence in the orthodontic training programmes in the country. Similar findings have been reported internationally.^{6,7} Indeed both postgraduate medical colleges in the country can build on this by addressing some of the problems highlighted by the residents in this study with an aim to further improving on the quality of postgraduate Orthodontic training in the country.

Conclusion

Orthodontic residents' in the country believe that the residency training would adequately equip them to function as Orthodontists upon graduation. However, they are not satisfied with certain aspects of the training currently received, particularly with respect to research based training and the didactic teaching sessions.

Recommendations

There is an urgent need to increase the research based component of the postgraduate orthodontic training program. Apart from the Part II Fellowship

dissertation, orthodontic residents should be encouraged to participate in other research activities during the residency training program. In addition to this, although the orthodontic training program in Nigeria is clinically oriented and Fellowship based, didactic teaching sessions could also be incorporated into the program through well-structured seminars facilitated by Consultants and an increased amount of self-directed study by the residents. Furthermore, both postgraduate Colleges in the country should ensure that the orthodontic training programmes in the different institutions incorporate different treatment philosophies.

Contributors

IGI,OI,AEA were responsible for data collection and writeup.

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Self

Conflict of Interest

Nil

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