

Full Length Research Paper

Undergraduate dental curriculum of a Nigerian dental school and the behavioural science and management skills required for private dental practice

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Accepted 18 April, 2013

The purpose of this study was to determine whether the undergraduate dental curriculum of the University of Lagos Dental School, adequately prepares the dental graduate with the behavioral science and business/management (practice management) skills required for private dental practice. A review of the current undergraduate dental curriculum of the University of Lagos Dental School was carried out to determine if there were any behavioral science and business/management course(s) designed to provide these skills. The curriculum was also reviewed to determine if there was any provision for clinical exposure to private dental clinics, for the dental students, prior to graduation. A review of the curriculum showed that there were behavioral science courses in medical sociology, medical psychology, clinical psychology and communication and interpersonal skills. However, there were no courses in the business/management skills required for private dental practice. There was also no provision for clinical exposure/attachments to private dental clinics. In comparison, the curriculum for penultimate year medical students in the same institution included a two-week clinical attachment/posting to private hospitals and medical facilities. The findings from this study show that the undergraduate dental curriculum of the University of Lagos Dental School adequately prepares the dental graduate with the behavioral science skills required for private dental practice. However, the curriculum is currently deficient in the business and management skills and knowledge required by dentists for private dental practice. Thus, there is an urgent need for the inclusion of practice management in the undergraduate dental curriculum of the University of Lagos and all other dental schools in the country.

Key words: Practice management, undergraduate dental curriculum, private dental practice.

INTRODUCTION

Undergraduate dental education in Nigeria started at the University of Lagos Dental School in September 1966. This was the first dental school to be established in Black Africa (Holist, 1985). The Nigerian undergraduate dental curriculum was modified from the British dental curriculum with many of the foundation faculty also

coming from the United Kingdom. Indeed, the Lagos Dental School was established as a single department under the Chairmanship of Professor N. W. Fox Taylor, a British national; with the first set of dental students graduating in 1971. It was later reorganized into three departments, namely, Oral Surgery and Oral Pathology,

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Restorative Dentistry and Preventive Dentistry (Jeboda, 1997). Since 1971, over 425 dentists have graduated from the University of Lagos Dental School. The University of Lagos Dental School currently has five departments, namely, Child Dental Health, Oral Pathology, Oral and Maxillofacial Surgery, Preventive Dentistry and Restorative Dentistry (CMUL, 2013). Currently, there are eight accredited dental schools in Nigeria, by the Medical and Dental Council of Nigerian (MDCN, 2013).

The National Universities Commission (NUC) and the MDCN are the two bodies responsible for regulating medical and dental education in Nigeria. The undergraduate dental course in Nigeria lasts a minimum of 6 years. As recommended by the MDCN, the curriculum is traditionally divided into four parts. The first part, which takes place in the first year of training, involves the study of the basic science subjects: physics, chemistry, biology and general studies. The second part comprises a basic medical and dental science phase that introduces students to the foundations of human structure and function including courses like anatomy, histology, biochemistry, physiology and oral biology. In the third part, clinical medical sciences that address the function and disorders of human organ systems are studied. The fourth and last part is the dentistry phase, which includes the clinical dental sciences. This dentistry phase can further be subdivided into basic dentistry (comprising basic, pediatric and advanced operative techniques and the science of dental materials) and clinical dentistry. The clinical dentistry phase, encompasses paedodontics, orthodontics, restorative dentistry, oral and maxillofacial surgery, oral pathology and oral medicine, periodontology, dental and maxillofacial radiology and community dentistry (MDCN, 2006).

After graduation and internship, career options open to dentists in Nigeria, include working in government owned health institutions, armed forces run institutions, as well as private dental practice, either as employees or in solo or joint ownership. In Nigeria, private dental practice is also growing. Modern dental practice started in Nigeria about 78 years ago, precisely between 1935 and 1937 with only two expatriate dentists (Holist, 1985). Since then, private dental practice has evolved and is currently a viable career option for dental graduates in Nigeria. As an emerging economy with a rapidly growing middle-class and the current National Health Insurance Scheme, it is projected that there would be an increased demand for private dental care, which would in turn lead to an increase in the number of private dental clinics set up in the country.

Dentists working in private practice are essentially small business owners and are required to direct and supervise a number of other health care professionals including other dentists, dental hygienists, dental assistants, laboratory technicians, and receptionists.

New dentists also find themselves focusing on a number of administrative tasks including bookkeeping,

financial forecasting, retirement planning, human resources, navigating insurance plans, buying equipment, maintaining inventories, and advertising. Each of these areas requires skill sets that must be mastered to lead and manage a successful business enterprise (Barber et al., 2011). Furthermore, excellent communication skills, self-discipline, and sound business backgrounds are essential for success in a private practice as well. However, development of these skills is frequently not a primary focus in the dental school setting (Barron et al., 1984; Van Blarcom, 1990; Chambers, 1992).

Undergraduate dental training at the University of Lagos essentially follows the curriculum as prescribed by the MDCN and discussed earlier. Indeed, the curriculum of dental schools in Nigeria are normally designed and produced by the Board of Studies (or an equivalent body) of that school, subject to the approval of the appropriate university organ, such as the university senate (MDCN, 2006). A broad overview of the University of Lagos dental curriculum shows that it extensively covers all aspects of dentistry required for clinical dental practice. However, as stated by Willis (2009), preparing dental graduates to operate a practice using sound business principles has become as important to their success as teaching them the scientific and technical bases of proper patient care, thus highlighting the importance of business management training as part of undergraduate dental curriculum.

The traditional curricular path in which business and management skills are emphasized in dental schools, all over the world, is in practice management courses. These skills are also learned in the clinical setting, ethics and professionalism curriculum, and behavioral sciences courses. Unfortunately, undergraduate dental education very often does not provide these skills. In a recent study to determine respondents' perception of preparedness for dental practice management upon graduation from dental school, an overwhelming number of dentists (85%) reported that they had felt uncomfortable with their practice management education at the time of graduation (Barber et al., 2011). Indeed, it is sad to note that many dentists in private practice often have to learn and acquire management skills while on the job; sometimes after making costly mistakes which could have been avoided if they had received adequate training in this important aspect of dentistry.

Thus, the aim of this study was to determine if the undergraduate dental curriculum of the University of Lagos Dental School, adequately prepares the dental graduate with the behavioral science and the business/management (practice management) skills required for private dental practice.

METHODOLOGY

This study was essentially a curriculum review. The authors carried out an extensive review of the current undergraduate dental curriculum of the University of Lagos Dental School (CMUL, 2011).

This review was done using a methodology described by Dunning et al. (2011) in a closely related study, to determine if there was/were any course(s) designed to provide the behavioral science and business/management skills required for the practice of dentistry, particularly private dental practice.

Thus, for the purpose of this study, 'behavioral science' was defined very liberally to include courses in the disciplines of psychology, sociology, communication and speech. While, 'business/management skills' were defined very broadly to include courses in any of the following areas including accounting, marketing, human resource management, small business set-up, equipment procurement and inventory control, entrepreneurship, organizational behavior, leadership and ethics. The different behavioral science and business/management areas listed earlier were selected, because they had previously been cited in literature, as important components of the behavioral science and business/management skills required for private dental practice (Barber et al., 2011; Dunning et al., 2011; American Dental Education Association (ADEA), 2011; Willis, 2009; Houlberg, 2008).

In addition, the clinical curriculum was reviewed by assessing the contents of each course to determine if there was/were any course(s) or elective(s), with the objective(s) of exposing the dental students to private dental practice, prior to graduation.

Comparisons were made with the medical curriculum of the same institution and with the undergraduate dental curricula for European and North American dental education. For European undergraduate dental education, comparisons were made with the Association for Dental Education in Europe (ADEE) document on curriculum structure, content, learning and assessment in European undergraduate dental education (ADEE, 2010). On the other hand, for North American dental education, comparisons were made with the 'competencies for the new general dentist' as prescribed by the ADEA (2011). In making these comparisons, the method utilized for assessing courses in 'behavioural sciences' and 'business/management skills' earlier mentioned was used.

RESULTS

A review of the undergraduate dental curriculum of the Lagos Dental School revealed the following. There were behavioral science topics in medical sociology and medical psychology, which were scheduled for total cumulative periods of 56 (0.91%) and 26 h (0.42%), respectively of the total duration of the undergraduate dental curriculum and were undertaken in the second year of training. In addition, there was a course in clinical psychology, scheduled for 36 h (0.59%), which was undertaken in the third year of training. A course in health management and planning, which included lectures in communication and interpersonal skills, was also included in the curriculum for the 5th year of training. The 5th year medical and dental students jointly undertook this course. However, a review of the course outline for this course showed that it was designed primarily for the management and execution of primary health care programs and was not as a management course for dental practice.

There were no courses in the business/management skills required for private dental practice as previously highlighted in the methodology. In addition, there were no provisions for clinical exposure/attachment to private dental clinics prior to graduation. In comparison, the

undergraduate medical curriculum of the same school (University of Lagos Medical School) also included the same courses in behavioural sciences as outlined for the dental students. However, in addition, it included a course in General Medical Practice (GMP), in which the basic business/management principles required for running a private medical facility were taught to the 5th year medical students. This course included a provision for a two-week clinical attachment with private hospitals as part of the course. Thus, unlike the medical students, the dental students are only exposed to dental care delivery in a tertiary health facility with no exposure to private dental practice prior to graduation.

A comparison with undergraduate dental education in Europe (ADEE, 2010) and North America (ADEA, 2011) showed that behavioural science and practice management courses were included in the dental curriculum in both climes, unlike in Nigeria. ADEE recommends that "behavioural and social sciences are included in the curriculum to ensure that dentists communicate effectively with their patients, team members and other health professionals". It also recommended that practice management should be included in the curriculum (ADEE, 2010). In a similar vein, ADEA (2011) also identified 'communication and interpersonal skills' and 'practice management and informatics' as two of the six major competencies which general dentists should have acquired on graduation from dental school. Under 'practice management and informatics', article 5.4 of this document, further states that the new graduate dentist should 'demonstrate effective business, financial management and human resource skills' (ADEA, 2011).

DISCUSSION

Behavioral science and business skills are vital to the success of any practicing dentist (Dunning et al., 2011). According to the MDCN, the competencies and skills, which the Nigerian trained dentist should have on graduation, include, among others, entrepreneurship as applied to clinical practice and the communication and interpersonal skills relating to the ability to interact with patients, other health professionals and to engage in teamwork. Thus, it recommends that dental practice, administration and management studies should be part of the curriculum for final year undergraduate dental students in Nigeria. However, it is the responsibility of the individual university to arrange its courses to suit its aspiration and learning (MDCN, 2006).

Indeed, the MDCN's outline for the Nigerian undergraduate medical curriculum is even more detailed, with respect to its expectation of practice management training for medical doctors. It recommends a course in Economics and Administration in GMP. It goes on to state that this course should cover such areas as requirements for setting up and managing small-scale

practices; sources of funds and optimal fund utilization; basic principles of budgeting and budget control; costing and cost structures services pricing; medical records keeping; inventory and inventory control; basic principles of personnel management and staffing of private clinics and hospitals (MDCN, 2006). It can be rightly argued that these topics cover the core areas of practice management required not just for medical practice, but for dental practice as well.

A review of the undergraduate curriculum of the University of Lagos Dental School showed that behavioral science courses such as medical sociology, medical psychology and clinical psychology were present. In addition, there were also courses in communication and interpersonal skills. However, the core courses required for business and management skills, that is, practice management, as outlined earlier were absent. It is interesting to note that the medical curriculum for the same school follows strictly the recommendations of the MDCN in this regard. Thus, the fifth year medical students undergo a course in GMP, which covers different aspects of medical practice management as discussed earlier.

One of the reasons why the undergraduate medical curriculum in Nigeria is more detailed in its requirements for practice management training may be the fact that dental education in Nigeria is relatively much younger. Dental education in Nigeria commenced 18 years after the first medical school was established at the University College Hospital, Ibadan in 1948. Thus, while the medical curriculum has undergone major revisions over time, it can be said that undergraduate dental education and its curriculum in Nigeria are still evolving. In particular, the same may be said for the University of Lagos, where the medical school was established in 1962, four years before the establishment of the dental school (CMUL, 2013). Current anecdotal evidence shows that practice management training is also absent from the undergraduate curriculum of all other dental schools in Nigeria.

As reported by Willis (2009), the study and teaching of the discipline of dental practice management are becoming more important as the dental practice business environment becomes increasingly complex. Changes in the external environment of dental practice require that practice owners have more of a business orientation in managing their practices than ever before. However, even in environments where practice management forms a part of the undergraduate dental curriculum, graduating dental students often identify practice administration and patient management among the least emphasized topics in their programs, and the majority feels underprepared to lead and manage the business of a practice (Barber et al., 2011). Thus, the need for its inclusion in the undergraduate dental curriculum of the Lagos Dental School cannot be overemphasized.

Training in practice management provides the business

and ethical context for care delivery and prepares dentists for the economic realities of the world (Corner et al., 2001; Frohna et al., 2004). Nigeria, with a population of over 160 million people and a rapidly growing economy provides a huge opportunity for entrepreneurship. Current reforms in the health sector, particularly in the area of managed care and health insurance, have a tendency to increase the access to healthcare of a large proportion of the population, particularly the middle class. Anecdotal evidence shows that this has affected positively the number of people seeking private dental care and in turn has led to an increase in the number of dental clinics, particularly in the cities and urban areas. It is therefore very important, that the Nigerian dental graduate is adequately prepared, not just with the clinical skills required for practice, but also the management skills required to effectively run and manage a dental practice.

In this study, it is also acknowledged that not all dental graduates would be interested in private dental practice on graduation from the dental school. Indeed, some will aspire to work in the public sector; in either Local, State or Federal Government owned dental institutions or even with the military. However, practice management training would still be of great benefit to these dental graduates, because the management and leadership skills acquired from a well-designed practice management course can be effectively utilized in any dental establishment.

Conclusion

The undergraduate dental curriculum of the University of Lagos Dental School adequately prepares the dental graduate with the behavioral science skills required for private dental practice. However, the curriculum is currently deficient in the business and management skills and knowledge, required to prepare the dental graduate for private dental practice. Thus, there is an urgent need to include practice management in the undergraduate dental curriculum of the University of Lagos and all other dental schools in Nigeria.

Study limitations

While this study suggests that there is a need to include practice management in the undergraduate dental curriculum of the University of Lagos, it has a number of limitations. An assessment of the knowledge and perception of the University of Lagos dental students and graduates themselves, on the practice management skills required for dental practice, would have been of value to this study. Furthermore, an assessment of the current undergraduate dental curriculum by recent dental graduates of the school, on its adequacy or otherwise, in helping them to cope with the management demands of dental practice, would also have been of great value.

Thus, there is a need for further studies to address these issues.

RECOMMENDATIONS

Inclusion of practice management in the undergraduate dental curriculum of the University of Lagos and that of all other dental schools in Nigeria is strongly recommended. The practice management training should include courses in accounting, marketing, human resource management, health insurance, small business set-up, equipment procurement and inventory control, entrepreneurship, organizational behavior and leadership.

There is also a need for exposure of the dental students to the private dental practice environment, prior to graduation from the dental school. Dental students in their final year of training could undergo externships to selected private practices of alumni of the Lagos Dental School. Owners of these practices could also serve as mentors to graduating dental students interested in going into private dental practice. A similar model could also be adopted in the other dental schools in the country. All these would adequately prepare the Nigerian dental school graduate to function effectively in either the public or private sector, as dentists with the pre-requisite management skills and knowledge to excel in both areas.

Furthermore, there is a need for the Medical and Dental Council of Nigeria, to clearly spell out in detail, the practice management competencies that Nigerian dentists are expected to have on graduation as has been done with the medical curriculum. They should also ensure that these are included and implemented in the undergraduate dental curricula of all dental schools in Nigeria.

It is important to note that the inclusion of practice management in the curriculum does not automatically translate into the acquisition of these skills by dental graduates. There is still a need to ensure that the courses are designed and taught in a way that would be of great value to the dental student upon graduation as a dentist. Thus, even when introduced into the curriculum, there is a need for continuous research to ensure that these courses are achieving the purpose for which they were included in the first place.

REFERENCES

- American Dental Education Association (2011). Competencies for the new general dentist (as approved by the 2008 ADEA House of Delegates). *J. Dent. Educ.* 75(7):932-935.
- Association for Dental Education in Europe, ADEE (2010). Curriculum Structure, Content, Learning and Assessment in European Undergraduate Dental Education. Available at: <http://www.adee.org>.
- Barber M, Wiesen R, Arnold S, Taichman RS, Taichman LS (2011). Perceptions of Business Skill Development by Graduates of the University of Michigan Dental School. *J. Dent. Educ.* 75(4):505-517.
- Barron EG, Shirley WL, Waldrep AC (1984). A realistic approach to locating dental practices. *J. Am. Dent. Assoc.* 109: 903-908.
- Chambers DW (1992). The continuing education business. *J. Dent. Educ.* 56(10):672-679.
- College of Medicine, University of Lagos (2011). College of Medicine, University of Lagos Prospectus 2011/2012. CMUI, pp. 45-49.
- College of Medicine, University of Lagos (2013). Faculty of Dental Sciences Curriculum. Available at: <http://www.cmui.edu.ng>.
- Dunning DG, Lange BM, Radden RD, Tacha KK (2011). Prerequisites in Behavioral Science and Business: Opportunities for Dental Education. *J. Dent. Educ.* 75(1):77-81.
- Frohna JG, Kalet A, Kachur E, Zabar S, Cox M, Halpern R, Hewson MG, Yedidia MJ, Williams BC (2004). Assessing residents' competency in care management: Report of a consensus conference. *Teach. Learn. Med.* 16(1):77-84.
- Holist NO (1985). Dentistry in developing countries (Africa): A case study. *Trop. Dent. J.* 8(1):23-28.
- Houlberg BJ (2008). Dental residents' perceptions of practice and patient management training during postgraduate education. *J. Dent. Educ.* 72(6):643-652.
- Jeboda SO (1997). Dental educational trends in Africa with special reference to Nigeria. *Int. Dent. J.* 47:21-25.
- Medical and Dental Council of Nigeria - MDCN (2006). The Red Book: Guidelines on Minimum standards of Medical and Dental Education in Nigeria. Available at: <http://www.mdcnigeria.org>.
- Medical and Dental Council of Nigeria (2013). Dental training institutions accredited by council. Available at: <http://www.mdcnigeria.org>.
- Otuyemi OD (2002). Orthodontics in Nigeria: Journey so far and the challenges ahead. *J. Orthod.* 28(1):90-92.
- Van Blarcom C (1990). Prosthodontics. Clinical practice-third-party relations. Review of the literature. *J. Prosthet. Dent.* 64:293-310.
- Willis DO (2009). Using competencies to improve dental practice management education. *J. Dent. Educ.* 73(10):1144-1152.