

THE UNDERGRADUATE TRAINING IN OPHTHALMOLOGY THE UNIVERSITY OF NIGERIA NSUKKA MEDICAL STUDENTS' VIEW

By

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SUMMARY

Objective:

The study was embarked upon to determine the view of University of Nigeria final year medical students on the adequacy of their undergraduate training in ophthalmology, *vis-à-vis* rendering basic eye care as general duty doctors.

Methods:

One hundred final year medical students, who had finished their ophthalmology clinical postings, completed a self-administered, structured and semi structured questionnaires in August 2004. Data analysis was done manually using an electronic calculator.

Result:

Majority of the students (60%) were of the view that the training was inadequate. This was largely attributed to the low level of clinical exposure and community experience in the programme.

Conclusion:

The undergraduate training in ophthalmology undergone by these final year medical students may not have equipped them with adequate knowledge and skills to render basic eye care as general duty doctors. There is a need to improve the relevance and quality of the training.

Key Words: - *Ophthalmology, training, Medical Students, view.*

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INTRODUCTION

In a concerted bid to eliminate avoidable blindness by the year 2020, the Vision 2020: The Right to Sight¹ involving the active participation of the World Health Organisation, governments, eye care organisations, health professionals, philanthropic institutions and individuals, was designed. A key strategy to achieve this goal is the training ophthalmologists and other eye care personnel.

At a workshop on "vision 2020 and undergraduate medical education in West Africa" held in Ota, Nigeria in September 2001, the following observations among others were made: (i) There is a shortage of ophthalmologists in the sub region and (ii) Majority of medical graduates in the sub region are inadequately equipped with knowledge, skills and attitudes to offer basic eye care services².

The workshop recommended that, if the expectations of vision 2020 (that is achieving a ratio of at least one ophthalmologist per 250,000 population in sub Saharan Africa and getting all medical graduates trained in basic eye care by the year 2020) were to be met, medical school curricula need to be revised to comply with the World Health Assembly resolution 48.8 of 1995, which "encourages all countries to undertake activities to reform medical education and medical practice with a view to increasing relevance, quality, cost effectiveness and equity in health care".

It is in the light of this situation that we undertook this particular study, since training in ophthalmology actually begins in the medical schools, and may also terminate there for those who may never get involved in postgraduate ophthalmology training and/or continuing medical education programs in ophthalmology. This position also takes cognisance of the fact that the medical student is the primary consumer of the training offered by medical schools and that the curriculum content of any medical education program, as well as the perception/attitude of the students to such training, determine the quality of the graduates of the institution.

The stated objective of the Department of Ophthalmology, University of Nigeria for the undergraduate curriculum is to continue to offer undergraduate ophthalmology education as a component of undergraduate medical education, in order to produce general duty doctors who are knowledgeable in ophthalmology and able to practice anywhere in the world. With an approximate student/teacher ratio of 10: 1, the medical students are required to successfully complete a 4week block clinical posting in ophthalmology in their fifth year, at least 6months before their 4th (MBBS) professional examinations (in obstetrics and gynaecology, paediatrics and community medicine), and almost a year before their final/5th (MBBS) professional examinations in medicine and surgery. During the posting, attendance at the clinic, ward and theatre sessions on a daily basis (Monday to Friday) is mandatory, and the students are lectured on carefully selected topics. The following topics are covered: Cataract, glaucoma, red eye, blindness/low vision, uveitis, eye trauma, retinoblastoma, refractive errors, tropical eye diseases, pupillary reaction disorders, proptosis and diseases of lids, conjunctiva, and cornea. Competencies expected to be acquired by the students include knowledge of basic anatomy/physiology of the eye, history taking/examination of eye patients, ophthalmoscopy, visual field assessment, ability to make diagnosis of common eye diseases/emergencies, and ability to manage/refer such cases accordingly. At the end of the posting the students sit an end-of-posting test, usually administered as multiple choice questions or short essay questions. The student who attended regularly for the four weeks is signed off by the supervising consultants as having completed the posting.

The objective of the study was therefore, to determine the views of these medical students on the adequacy of their undergraduate training in ophthalmology vis-à-vis rendering basic eye care as general duty doctors. If recommendations made from this study are implemented, it is hoped that the products of such medical training will be general duty doctors who are capable of rendering effective basic eye care.

MATERIALS AND METHODS

A cross sectional descriptive survey of the final year medical class of the College of Medicine, University of Nigeria, was conducted in August 2004. One hundred out of one hundred and twenty medical students in the class duly completed self-administered questionnaires, which sought information on the following issues: Personal bio data, views on their undergraduate training in ophthalmology, level of involvement in clinical/practical procedures, views on lecture contents/curriculum and reforms required in the programme. The survey was conducted about two months after they had completed their ophthalmology posting. The selection criterion for this study was successful completion of the ophthalmology clinical posting by the student. All data obtained were analysed manually.

RESULTS

One hundred medical students (62 males and 38 females) took part in the study, a response rate of 83.3%. Their ages ranged between 23 years to 36 years.

Forty-nine (49%) students regarded ophthalmology as a growing specialty, 27 (27%) felt it is a small specialty while 11 (11%) felt it is a large specialty. Although 86 (86%) of them considered knowledge of ophthalmology relevant to general medical practice, only 16 (16%) students seriously consider specializing in ophthalmology, while 19 (19%) students were undecided as regards making a career in ophthalmology.

Among the remaining 65 (65%) who are not interested in pursuing a career in ophthalmology, primary reasons cited for this stance included: - very narrow/microscopic field in 34 (34%); not challenging/exciting in 7 (7%); not rewarding financially in 3 (3%); the eye is too delicate in 5 (5%); inadequate exposure to ophthalmology in 12 (12%); and full of high sounding terms in 4 (4%). None of the respondents had had the benefit of undergoing any form of post-graduate career guidance and counselling since admission into the medical school, despite being assigned to academic staff advisers in the school.

In further probing the level of interest in the study of ophthalmology, in terms of using internet facilities to conduct literature searches, 88 (88%) admitted that they had never done any internet search on ophthalmology, as opposed to 13 (13%) who admitted that they had never done any internet search in any other medical/surgical specialty. However, 95 (95%) of the students admitted that they had done internet searches on a variety of other topics not related to their course of study, and had also used the internet for other purposes.

Regarding the adequacy of the ophthalmology training obtained, 60 students (60%) felt it was inadequate for them to function as basic eye care providers, while 30 (30%) of them felt it was adequate. The remaining 10 (10%) did not give their views on this matter. Fifty-three students (53%) were of the opinion that the duration of the ophthalmology posting should be longer than the present 4 weeks duration. Eighty-one students (81%) were in support of the posting coming up between the 3rd and 5th MBBS professional examinations (as being presently conducted), while 10 students (10%) suggested conducting the posting before the 3rd MBBS professional examinations in pathology and pharmacology. Fifty students (50%) were of the view that the present format of having a single round block posting be maintained, while the other 50 (50%) were in support of having short but frequent ophthalmology postings all through their stay in medical school.

Among the shortcomings of the undergraduate ophthalmology programme, the following ranked highly: - poor clinical exposure 72 (72%); no community experience 33 (33%); little individualised training 35 (35%); short duration of the posting 65 (65%); inadequate number of ophthalmoscopes 89 (89%); ophthalmology lectures not being delivered before the clinical postings 52 (52%); lack of enthusiasm by some of the lecturers 4 (4%); unavailability of standard ophthalmology text books 68 (68%); no observer pieces in the operating microscopes in the eye theatre 52 (52%). Sixty-nine students (69%) felt that the lecture contents in the curriculum are inadequate, with 31 (31%) feeling otherwise.

However, when inputs into the lecture contents were sought, no student made any input.

Regarding the level of clinical exposure to patients and procedures, only 10 students (10%) found it satisfactory and 86 (86%) found the clinical experience to be unsatisfactory. The remaining 4 (4%) students were uncertain about the level of clinical exposure to patients and procedures. No student actually assisted in any procedure in the clinic, theatre or wards. Among the common surgical procedures observed by the students, (pterygium excision, chalazion incision and curettage, foreign body removal, cataract surgery, trabeculectomy, orbital surgery, repair of corneal/scleral lacerations and lid surgeries), 5 (5%) students never observed a surgical procedure throughout their postings, while 6 (6%) observed only 1 procedure. Not a single student observed all the surgical procedures on which information were sought. The study did not probe to identify reasons for these situations. The commonest surgical procedures observed by the students were cataract surgery 82 (82%), pterygium excision 73 (73%), trabeculectomy 36 (36%) and chalazion incision and curettage 36 (36%).

Remarkably, 36 (36%) of the students never did fundoscopy; 18 (18%) did it only once, 31 (31%) did it twice or thrice, while only 15 (15%) did fundoscopy regularly during the posting. However, only 7 (7%) of these students had their own personal ophthalmoscopes, with the remaining 93 (93%) who did not own one, citing the high cost of the instrument as the main militating factor. Seventy-three of the students (73%) possessed personal pen torches.

TABLE 1

Choice of the most relevant single reform needed to equip general duty doctors to perform basic eye care by 100 final year medical students.

Increased clinical exposure was identified by 74 medical students (74%) as the most relevant reform needed to equip them for medical practice.

Suggested reform	Frequency	%
Increased Clinical Exposure	74	74
Provision of Standard Ophthalmology textbook	7	7
Reforms in duration, timing and nature of posting	5	5
Mandatory Ownership of basic eye instruments	4	4
Provision of logbook for the posting	3	3
Computer aided/Internet based teaching	3	3
More lectures	2	2
Attitudinal change in trainers	1	1
Small group teaching	1	1
Total	100	100

The other reforms suggested included provision of a standard ophthalmology textbook, mandatory ownership of basic instruments, and reforms in duration, timing and nature of the postings. In addition, sixty-one students (61%) were of the view that medical students should be involved in designing the undergraduate ophthalmology programmes.

DISCUSSION

Ophthalmology practice has witnessed considerable leaps in the application of technology to clinical and surgical practice. Most specifically, the quantum leap in information technology with all its ramifications for training and practice has contributed remarkably to this development. With globalisation, there is an emerging need to produce a workforce that can perform in any part of the world. Explosion in knowledge as a result of advances in information technology makes it imperative for doctors to acquire new skills for keeping pace with scientific discoveries throughout their career.

Even with the advances in information technology and the near fanatical interest displayed by the youth in the utilisation of internet services, this study suggests an apparently low level of interest in ophthalmology on the part of the medical students. With only few of them hoping to make a career in ophthalmology, further credence is lent to the assertion that these medical students may not have been well informed about the nature, scope, prospects and challenges of ophthalmic practice. Perhaps, the apparent low level of interest displayed by them may be attributed to the manner in which their trainers have presented the specialty to them. It is noteworthy that in a study conducted in Ibadan, that when information was sought from the medical students regarding their sources of inspiration among their teachers while in medical school, only 7 (5.3%) cited their ophthalmology teachers³. In view of the fact that specialty choice is strongly related to experience gained in the medical school, medical teachers should worry about their rather low popularity rating in students' choice of source of inspiration. In a related study, it was also noted that out of 338 respondents (who were fresh medical graduates), only 22 picked ophthalmology as the first choice of specialisation⁴. In view of the situation we have observed in our study, it may be necessary to initiate programs which will stimulate and maintain the interest of these students in ophthalmology. Essay writing competitions may be organised. Students, while on posting,

could be encouraged to do internet searches on ophthalmic topics. An attractive prize for the best student in ophthalmology could be awarded by the department. There may also be a need for attitudinal change in some trainers and medical students.

Majority of our respondents felt that the training they had received was inadequate to enable them render basic eye care as medical doctors. The major shortcomings they cited were the low level of clinical exposure to patients and procedures; the timing and duration of the postings; non-availability of standard textbooks and ophthalmic instruments. In a study in the United Kingdom, it was also shown that most primary care doctors viewed their undergraduate ophthalmic medical education as inadequate, as this was reflected in their confidence and understanding⁵. They suggested therefore, that general ophthalmic education be aimed at teaching examination techniques and ophthalmology principles suitable for primary care practice. In our study, ophthalmoscopy (a very essential part of a complete eye examination of a patient) was never done by 36 (36%) students. Only 7 (7%) of the 100 students owned direct ophthalmoscopes. In this light, another study has demonstrated that owners of ophthalmoscopes performed ophthalmoscopy more frequently than non-owners, and by inference were more likely to be more proficient in the technique⁶. A study on "the effect of formal instruction in ophthalmoscopy on medical students' performance" showed a persistent improvement in performance following specific teaching⁷. With ophthalmoscopy (which is a routine examination technique) not being commonly and routinely practiced by these students in our study, one can only imagine the level of exposure they would have had to other clinical procedures/techniques. Even when information was sought on observed surgical procedures, it was shown that no student observed all the procedures mentioned, and also that 5 (5%) students actually completed their postings without observing a single surgical procedure. As this study did not set out to identify the reasons for this, it may be deduced that these five students probably were not attending

theatre sessions at all. One problem which this raises, is the need to fashion out a means of ensuring that the medical students participate in and/or observe a required number of certain selected procedures before being signed off from the posting in future. In this way, it can be ascertained if a student has picked up the skills/knowledge required to render basic eye care as a medical doctor. There should be an increased level of clinical exposure for these medical students. They should be encouraged and allowed to participate actively in the clinics, wards and theatres. A clinical log book should be instituted and these students required to observe and/or conduct certain basic procedures/techniques before completing the posting. Ownership of the direct ophthalmoscope and pen torch should be mandatory for all medical students. The duration of the posting may be increased from four weeks to possibly six to eight week, if found necessary in the future. Students should be involved also in the community eye health programmes of the department. The didactic ophthalmology lecture sessions should be completed before the commencement of the clinical postings. The department should recommend a standard ophthalmology textbook for the medical students, and this book should be affordable, accessible and appropriate for the needs of these students. Small group/individualised teaching and problem based learning methods should also be promoted.

The involvement of medical students in designing their ophthalmology programme may be given strong consideration, especially as shown in this study where 61 (61%) of the students felt they had a role to play in this matter. In a related study, Arije⁸ stated that the contributions of all stakeholders (students, their teachers, the community and the government) should be taken into consideration when drawing programmes for the medical schools. This situation is further strengthened by an Ibadan study, which showed that students could make very meaningful contributions to programme design⁹. Being the primary consumer of the medical training, the inputs of the medical students in programme design or

curriculum development ought not to be ignored. There is therefore a need for further research to determine the ways in which these students may be involved in curriculum development within the context of guidelines recommended by the World Federation for Medical Education (WFME), National Universities Commission (NUC), and the Medical and Dental Council of Nigeria (MDCN).

The fact that 74 (74%) of the students felt that the most important relevant reform needed in their present training programme is to widen clinical exposure to patient/techniques further brings to light the factor of low level of clinical experience being the major shortcoming of their training, and therefore being the major reason for their feeling of ill-preparedness to provide basic eye care as doctors. Even in developed countries, where there may be limited contacts with patients for the undergraduates, they have been able to develop novel approaches like internet-based teaching¹⁰ computer aided instructions¹¹ and computer-simulated eye surgery¹². These studies have shown their application to ophthalmology training, and the limitless possibilities provided by the computer/internet, as offering viable alternatives to traditional methods of teaching/training. Computer aided/internet based teaching and learning methods, as is obtainable in some developed countries, could also be employed in our society in order to keep pace with the very dynamic state of the ophthalmology specialty. With all the recommendations from this study being implemented, it is hoped that the quality and relevance of the undergraduate ophthalmic training will be remarkably improved.

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