Surgical Residency Training in Developing Countries: West African College of Surgeons as a Case Study

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Abstract: Background: In 1904, William Halsted introduced the present model of surgical residency program which has been adopted worldwide. In some developing countries, where surgical residency training programs are new, some colleges have introduced innovations to the Halsted's original concept of surgical residency training. These include 1) primary examination, 2) rural surgical posting, and 3) submission of dissertation for final certification.

Study design: Our information was gathered from the publications on West African College of Surgeons' (WACS) curriculum of the medical schools, faculty papers of medical schools, and findings from committees of medical schools. Verbal information was also gathered via interviews from members of the WACS. Additionally, our personal experience as members and examiners of the college are included herein. We then noted the differences between surgical residency training programs in the developed countries and that of developing countries.

Results: The innovations introduced into the residency training programs in the developing countries are mainly due to the emphasis placed on paper qualifications and degrees instead of performance.

Conclusion: We conclude that the innovations introduced into surgical residency training programs in developing countries are the result of the misconception of what surgical residency training programs entail.

Abbreviations: ABS, American Board of Surgery; MCQ, Multiple Choice Questions; NPGCN, National Post Graduate College of Nigeria; OSCE, Objective Structured Clinical Examination; RRCS, Residency Review Committee in Surgery; UCH, University College Hospital; UCI, University College Ibadan; UI, University of Ibadan

Keywords: Surgical residency training■Halsted■West African College of Surgeons■American board of surgery■Canadian fellowship examination

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INTRODUCTION

Circa 1960, a group of medical professionals in some West African countries bound together to form an association of medical doctors. This eventually metamorphosed into Professional College of postgraduate medicine. The metamorphosis gave birth to the introduction of surgical residency program designed to train postgraduate doctors locally as it is being done in the developed countries.[1–3] But unlike in the developed countries, in West Africa, many different disciplines of medicine with different training objectives are lumped together under the same umbrella of "harmonization" thus producing a program without a clear focus.

The purpose of this review paper is to highlight the differences in surgical residency training programs in the developed and developing countries.

METHODS

The information from this paper was sourced from journals published in English-speaking countries: United States of America (USA), Canada, United Kingdom (UK) and Nigeria.

Additional information was garnered from verbal discussions with some senior and foundation members of the West African College of Surgeons, and from the personal experience of the authors as members and examiners of the college. Various unpublished papers from the curriculum of some medical schools and faculty board papers of the college also contained information used in this manuscript.

FINDINGS AND OBSERVATION

In 1904 William Halsted presented his concepts of replacing an unstructured apprenticeship model of "training surgeons" with a formal curriculum based on basic science and bedside training.[1–3] During that period, there was no limit to the number of years of training. Some trainees spent up to eight years and others up to 13 years.[4,5] This practice was also known as the Halstedian training model who's mantra is, "See one, do one, teach one."[2,6]

Later, the pyramidal system of residency training program was changed to the rectangular surgical residency model.[7–9]

Before this Halsted's model of training surgeons, various countries had different ways of training surgeons. In Great Britain, it was after a doctor had passed the fellowship (final) examination that he would be permanently posted to a surgical unit as a "Registrar" or a "Senior Registrar" to perfect his surgical skills. At this point, he would then be addressed as "Mr" and no longer "Dr". The fellowship did not qualify the doctor to be or function

as a "Consultant" of an "Attending Surgeon" according to Halsted's model. It would be after some years as a "Senior Registrar" that he would be appointed to that grade or even not at all until the end of his/her professional life.

The beginning of the residency training in West Africa

The first medical school in Nigeria was established in 1948 called University College Ibadan, (UCI) which was affiliated to London University in the United Kingdom.[10,11] The UCI became operational fully as a teaching hospital to University College Medical School on October 1st, 1953[10,11]

About a decade later the association of surgeons of West Africa was established.[12,13] In 1969 this association gave rise to the present West African College of Surgeons which was mandated to 1) accredit residency training programs, 2) conduct examination for the candidates planning to be specialists, and 3) certify their training. Doctors in all West African countries that meet the requirement can sit for the examination. In a typical exam, about 65% of the candidates are from Nigeria and the remaining 35% of the candidates are from other West African countries, primarily Ghana.

Before this time, any doctor that wanted to pursue a specialist training program had to go abroad, primarily to the United Kingdom or to the United States or Europe. The United States of America was usually preferred because it has one of the best residency training programs in the world.[1] However, getting accepted into these programs is usually not very easy. With the introduction of the fellowship examinations locally, the need to go abroad for a residency training program was no longer there.

Surgical residency training in the developing countries compared with that of developed countries

A source of the major difference between surgical residency training in the developing countries and developed countries is the idea to centrally control and "harmonize" the training.

Additionally in developing countries, the mode of examination is homogenous for all the specialties of medicine, despite the fact that each discipline differs greatly from one specialty to the other. In the developed countries, the faculty chairman or a board designated by members of the particular discipline has almost total control of these, and the administration is just to provide the logistics for the smooth running.

Primary examination. Before admission into a residency training program in West Africa, a candidate has to pass a primary examination. This primary examination consists of basic science subjects: Anatomy, Physiology, Biochemistry and sometimes, pharmacology. These are the subjects the candidates studied full time for 2–3 years during the pre-clinical years. They must pass these subjects before they can progress to the clinical years. Then after 3 years of clinical studies and a year of housemanship/internship, they must re-take and pass all these subjects all over again (as primary examination) before being considered for residency training program. Even in institutions that practiced course-work-model of examination, once a candidate has completed a course of study and passed the course, he/she is not re-tested in the course 3 or 4 years later. But even then, passing this unnecessary primary examination does not guarantee a place in the program if there are more candidates than the places available. In that case, the candidates still have to have an in-house assessment like Multiple Choice Examination (MCQ)[14] and/or Objective Structured Clinical Examination (OSCE)[15] for selection into the program.

Training of doctors to be excellent surgeons is much more than rote learning which the primary examination entails.

(Ref: Prospectuses of WACS and that of National Postgraduate College of Nigeria.)

In the United States of America (US), the selection of candidates for surgical residency training program is well-balanced, scientific, straight forward and does not produce unnecessary mental agony for the candidates. Yet, the US has one of the best residency training program systems in the world.[1] Some things that are considered for selection in the US include; a centralized application through the Electronic Residency Application Services (ERAS), Curriculum Vitae, personal statement, medical school transcripts, Alpha Omega Alpha medical honor society membership, letter of recommendation from the Chairman of General Surgery of the candidate's medical school, and United States Medical Licensing Examination (USMLE) scores, among other things.[16,17]

"Rural" posting by surgical residents. One of the prerequisites for sitting for the final examination is that the candidate must rotate in a rural hospital, usually without any senior surgeon to supervise the activities of the residents. This concept converts rural medical establishments to a rural laboratory for residents and converts the rural dwellers to "guinea pigs." There is a gulf of difference between students in the medical schools going to the rural areas in their community for medical exposure to rural pathologies (which some medical schools do in the developing countries and which is highly commendable) and qualified doctors training to be specialists going to rural medical establishments to practice on rural dwellers without any supervision. This difference is where the mix-up is. In