

ESSAY

NIGERIAN MEDICAL STUDENTS: AN UNDERAPPRECIATED AND UNDERUTILIZED RESEARCH RESOURCE

Robert H. Glew,

Professor, Department of Biochemistry and Molecular Biology, School of Medicine, University of New Mexico, Albuquerque, New Mexico U.S.A.

e-mail: rglew@salud.unm.edu, telephone: (505) 272-2362, FAX: (505) 272-3815

Having taught biochemistry to medical students in the U.S. and Nigeria for three decades, I have been fascinated by the many contrasts that differentiate the education and training these students receive in the two countries. One of the most glaring and interesting distinctions between undergraduate medical education in the U.S. and Nigeria has to do with the extent or lack thereof to which Nigerian and American medical students become engaged in biomedical research while they are in medical school. The percentage of medical students in the U.S. who are involved to a significant degree in research certainly varies considerably across the 140 or so allopathic and osteopathic schools of medicine. Nevertheless, regardless of whether research is a required or voluntary activity, at most U.S. medical schools at least one-third and as many as one hundred percent of the student body participates significantly in research of one sort or another, be it epidemiology/population-based or laboratory-centered. At the University of New Mexico School of Medicine, for example, even before the requirement that students do a research project was put in place about 12 years ago, 30-40% of the medical students elected to engage in research under the tutelage of a faculty research mentor in one of the clinical or basic science departments.

In contrast, however, based on what I have observed first-hand from having taught medical students and done research at a number of teaching hospitals in different regions of Nigeria over the past 30 years, I cannot recall a single instance in which a Nigerian medical student ever involved himself or herself in a collaborative research project with a faculty member in any serious manner during the six years they were in training. Certainly, every medical student in Nigeria is required to complete a 16-week research project in Community Medicine; however, hardly ever are the

medical students' research finding published in a peer-reviewed journal. Indeed, it is a rare event when a Nigerian medical student's research contributes to a published article that carries their name as a coauthor or which even acknowledges the student's contribution to the study.

I was recently reminded of this stark contrast between U.S. and Nigerian medical students' involvement in biomedical research during the visit of a Nigerian colleague to my laboratory at the University of New Mexico. This gentleman, who is an obstetrician/gynecologist at one of Nigeria's preeminent teaching hospitals, was spending a month with me mainly for the purposes of catching up on the literature in the medical school library and writing several manuscripts. One afternoon while I was in the laboratory discussing with two medical students some of the data they had just obtained in their study of growth factors in children with sickle cell disease, my Nigerian colleague happened to be working close-by and was listening in on our conversation. Later that afternoon, my friend related to me his reaction to the conversation he had overheard between me and the two medical students. "I am truly astonished" he said, "by the sophistication of your students and by the extent to which they have immersed themselves in their research work. So rich and thoughtful was their discussion with you about their research findings that had I not known otherwise, I would have assumed they were faculty members rather than second-year medical students." He added, "The students appeared at ease and uninhibited as they presented their interpretation of the data to you. Even more surprising to me was the firmness and confidence with which they stood their ground and defended their reasoning and conclusions when you offered alternative interpretations of their data or views that were in opposition to theirs."

Robert H. Glew, et al

The next day, the Nigerian obstetrician interviewed the same two medical students about their attitudes towards research. One of them explained that his participation in a research project satisfied an intellectual need that didactic learning alone could not fulfill. He described how research gave him the opportunity to delve much more deeply into the complexities of a problem than was the case when he was sitting through a lecture in an auditorium or discussing a particular disease in a tutorial room. The other medical student said that what she most enjoyed about her research project was the opportunity it provided for her to exercise and develop her reasoning skills. She also appreciated how her research project stimulated her to draw upon the principles and factual knowledge she had acquired from textbooks in order to solve a unique problem that was practical and relevant to a particular human disease.

My colleague returned to Nigeria having pledged himself to seeking out medical students at the teaching hospital back home and encouraging them to take part

in his own research program as well as that of other members of the Department of Obstetrics and Gynaecology.

This cross-cultural experience underscored something I had understood ever since I signed my first contract at a U.S. medical school, and that is the two-way benefit that medical research confers upon both the student trainee and the faculty member who mentors that student: the student learns how to carry out a focused study from the initial point of hypothesis formulation to the final stage of manuscript writing, while the faculty member has the pleasure of nurturing critical thinking skills in students at a formative stage in their education while at the same time enhancing their own research productivity. In closing, I urge the faculty and administrators of the Nigerian medical schools to integrate a substantial and meaningful research experience into the medical curriculum so as to enhance the educational experience of the students and the research productivity of their faculties.