

Medical education in developing countries: The way forward

Diaa E.E. Rizk

Department of Obstetrics and Gynaecology, Faculty of Medicine and Health Sciences, United Arab Emirates University, P.O. Box 17666, Al-Ain, United Arab Emirates.

"Education is that which remains when one has forgotten everything learned in school" Albert Einstein (1879 - 1955).

"Before thinking about how to educate, one would do well to clarify what results one wishes to obtain" Bertrand Russell (1872-1970).

Health care has certainly developed throughout history with the evolution of humanity. The practice of medicine, however, has undergone drastic changes during the past three or four decades with a plethora of new inventions and ideas that have resulted in a very dynamic and interactive discipline. On the contrary, medical education, which had followed the evolution of medicine in the early stages, has changed very little compared to the

enormous changes in medical practice and patient care.

In today's continually changing health care environment, there is thus a serious concern that medical students are not being adequately prepared to provide optimal health care in the system where they will eventually practice, particularly in developing countries.¹⁻⁵ Some of the shortfalls and reasons identified in the existing medical curricula of many medical schools in developing countries include the following:

1. Lack of communication between health authorities and the medical schools.
2. No feed back given to medical schools regarding skills, knowledge, attitudes and competencies of graduate students.
3. No balance between curative and preventive medicine

with curative-based training making students believe that intervention is the most powerful measure for cure.

4. Predominance of departmental- and discipline-oriented curriculum linked to high technology medicine.
5. Primary health care that is normally considered as the most important pathway to achieve health for population goal is poorly reflected in the medical curricula with low priority given for community health.
6. Medical ethics, equity and human rights have little place in the training.
7. Teacher-dependent didactic learning process and communication between teachers and students is strictly one-way.
8. The social, economic and cultural dimensions of ill health are not addressed properly.
9. Uneven distribution of access to medical education among various geographical and social groups.
10. Grade-based admission to medical schools.
11. Clinical teaching of medical students is often insufficiently planned and supervised with more emphasis on theoretical scenarios.

Improvement of undergraduate medical education in developing countries should aim to strengthen and sharpen the skills of the medical undergraduates to be tomorrow's care providers, decision makers, communicators, community leaders and clinical team members. Training the medical students to be rational health care providers and judicious clinicians is one of the biggest challenges for any undergraduate medical education system. Based on the analysis of the evidence presented in the literature, while recommending many general changes to take place in the medical curriculum, the following areas pertaining to rational health care should be particularly emphasized in medical training in the developing world :

1. The need for a more equitable allocation of the limited health care resources available in a country to enable a shift from hospital-based, high-technology curative medicine to community based primary health care.³
2. The need for more emphasis on problem-based and patient-oriented teaching of clinical and cognitive skills.^{4,6,7}
3. The need for objective continuing medical education of practitioners and appreciation of their responsibility as role models.^{2,5,8}
4. The need to communicate effectively to patients in a language they can easily understand to ensure that they become active members of the health care team.^{7,8}

- 5- There should be ways and means to recruit medical students and other health workers from the range of backgrounds that makes up any society.⁷
- 6- If attitudes, behaviors, responsibility and interpersonal skills play a pivotal role in making a desirable doctor, then selection criteria of admission to medical schools should not be based solely on the aggregate marks or points.^{1,5}
- 7- The need for formulating and implementing a national medical curriculum as an integral component of the overall national health care policy and the concept of opportunity cost and cost-effectiveness and their rational use should be included in the national health care plan.²
- 8- The ability of the graduates to critically evaluate the biomedical literature with establishment of evidence-based criteria necessary for weeding ineffective, irrational, needlessly expensive and harmful interventions from the market.⁶

The objective of medical education in all countries whether developed or developing remains the same- to train young individuals and equip them with the necessary knowledge and skills to respond to the health needs of the people and to assist these people and the state to achieve their health objectives. The medical curriculum in a developing country should thus aim to "infect" students with a changed paradigm that will continue to transform their skills after graduation. Attention to the "social vaccine" of health empowerment along with appropriate referral by rural and urban health care facilities with an additional input of health awareness and motivation are important educational efforts that can assist in "down-staging" health risks and disease burden in the developing world.

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