



The Role of Medical Education as a Primary Resource for Health Development

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Abstract – Medical education should be preceded by adequate pre-medical scientific education. Competence at examinations at the end of this period of education and at interviews to assess aptitude and motivation should be mandatory requirements for admission to medical colleges. These standards cannot be compromised. The undergraduate medical curriculum merits periodic review. Patient care from the start, along with basic teaching of pre-clinical subjects, and clinical medical education related to primary health care geared to the requirements of the community are the needs of the hour. The curriculum must ensure that medical students get a proper perspective of the preventive and therapeutic aspects of clinical care and the relevant but limited role of high technology medicine. The newly qualified doctor must be preoccupied with clinical medicine, not high technology tertiary care. Attendance at refresher courses and Continuing Medical Education (CME) programmes for doctors in practice should be compulsory.

To attempt to foretell how medical education may stimulate better primary health care development, we must examine public health problems, changes in medical practice, the modern medical student and involve Government planning. We must also consider adequate teaching and training of nurses, laboratory aides and other auxiliary health workers if we are going to improve primary health care to the populus. There seems little use in producing thousands of doctors and only tens of nurses and other auxiliaries because that will not improve primary care. All this costs money which must be found from some source and there is also the basic fact that 'old ideas and

ways are only discarded when those wishing to retain them have ceased to have influence on events'.

There are differences among national systems of medical teaching and care but there are also some similarities. Medical education has had to adapt to the huge explosion of the Scientific Revolution of the past 60–70 years. As a result the scientific content of medical teaching is now accepted but the methods of teaching vary by nation and culture.

There are four main types of medical schools:

1. Hospital medical school (Britain and France).
2. Graduate school of research oriented university (USA).

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3. Research institute within the university (Germany).
4. Academies of medicine controlled by Government (Russia).

The Indian student largely follows the British system, and the experience of being a medical student is very similar in both countries.

To produce a well-educated caring person as a doctor providing primary care we must adequately educate the student and also ensure that the education continues into the postgraduate years. The old curriculum must disappear because we cannot simply go on adding to the curriculum. We must look at the total educational environment and exactly what we expect the students to do for their patients when they leave college. By this means we can hope to produce qualified individuals who will give better health care.

To educate medical students to give effectively of their best in delivering primary health care we must study three aspects:

1. Individual
2. Social
3. Professional

INDIVIDUAL

An important aspect is the initial pre-medical education. The individual must have an education up to 'A' level standard in the British system or the 12th grade of the Central School Board in the Indian system which should consist of preferably Chemistry and Biology with one other subject such as Mathematics or Physics. If Mathematics or Physics is not taken at 'A' level or the 12th grade they must be obtained at General Certificate of Secondary Education (GCSE) or Secondary School Certificate (SSC). This ensures an adequate science background for Medicine. The candidate should be interviewed to assess whether he or she cares for fellow humans in some discernible way such as having carried out some social welfare work with the elderly or handicapped children or the urban/rural poor. If, in addition to adequate A level (minimum of three B's) or CSB results (first class or distinction), he/she satisfies the panel then he/she may be offered a place in the Medical College.

SOCIAL

In Britain, primary health and hospital care are carried out by the National Health Service which was originally meant to look after the population from the womb to the tomb. Now after 40 years the Government says it is spending too much, the doctors say too little and the patients moan about the waiting

lists. All this is not due to doctors and/or patients but to a lack of community services to back up the hospital and general practitioner services. This is, as was mentioned in a previous lecture, the case of regulations and laws without the infrastructure to back them up.

At the beginning of the British National Health Service in 1948, it was assumed that general practitioners would give more time to primary care and take an interest in community health problems to promote health and prevent disease. However, Sir Douglas Black in 'Inequalities of Health' pointed out that expenditure on health promotion, acute care and disease prevention had not altered. This leads us to the thought that the training of the young medical student still relies on medical and surgical crises and not on primary care. As a result he or she does not know enough about the daily needs of the community from a medical point of view and this is a good reason for re-examining the present medical curriculum. The cultural side of the patient must also be considered by the doctors. The total number of doctors in an area, the primary health care and hospital facilities and the specialities of the doctors also play a part in the social aspects of treatment.

PROFESSIONAL

Now we must turn our thoughts to the curriculum. Loud and clear is the message that we must train our students in new scientific thoughts but **we must not forget that the doctor must be a caring, thinking, listening person with the time to talk to his or her patients, and show compassion while ensuring that the patient receives the most efficacious treatment.** This is important because in all the Western countries the ageing population has increased, whereas in India and many developing countries there are large populations *per se*, many of whom are caught up in the vicious cycle of poverty, malnutrition, disease and despair. As well as this, there is the question of drug abuse, HIV positive infections, the stresses and strains of modern life, pollution and industrial disasters. All this adds up to the utmost need to train compassionate young medical graduates. The subject of the medical curriculum is of paramount importance. Since the patterns of both British and Indian medical education are similar I will leave you with some thoughts regarding changes which may be possible. The original method of University teaching as seen in the older Universities of 4-5 students per tutor was excellent. This is impossible with the number of students today and with the diversity of subjects. Let me share with you some of the changes that we have

attempted to introduce small-group-teaching in my own college in Wales. We have developed 'integrated teaching' as we call it. We start with the premise that the student has an adequate knowledge of Chemistry, Physics, Biology and Mathematics from his primary and secondary school education. The medical student thus starts with the pre-clinical subjects. This course runs for two years or six university terms. The subjects taught are Anatomy which includes Histology, Embryology and Genetics, Physiology, and Biochemistry. They also have Sociology in year one and Psychology in year two. During these two years the students attend a half day session in the medical college where they are introduced to patients to illustrate points in the physiological and biomedical teaching. At the end of the course they take an examination (second M.B. examination).

They then commence in September, after passing the aforesaid examination, their three-year clinical studies. In the first clinical year they are divided into three groups of 50 students and allocated for 15 weeks to a main hospital in Cardiff. Each group is divided into small groups of four students and allocated to a physician or surgeon to study both medicine and surgery, the former for two five-week periods and the latter for five weeks. Every Monday morning they have core lectures and general practice case study in groups. At the end of the 15 weeks they have a short vacation of two weeks.

Commencing in January they all attend for 20 weeks in the College of Medicine the first part of the Clinical Sciences course. They have lectures, practicals, tutorials and seminars in Pathology, Medical Microbiology, Haematology, Medical Biochemistry, Pharmacology, Community Medicine, Medical Statistics and a project in Community Medicine. There is an examination at the end of the 20 weeks.

After this they then go back into their groups for a further 10 weeks divided into five weeks teaching

in Medicine and five weeks teaching in Surgery with a clinical examination at the end. The student then has the month of August for a holiday.

Provided he/she has satisfied the examiners at the end of the first clinical year, he/she resumes his/her studies in the 2nd Clinical Year at the beginning of September and has a 15 week course of study completing the Clinical Sciences block. This is followed by examinations in December in Pathology, Pharmacology and Community Medicine with Statistics.

After two weeks' holiday the students restart clinical training. For the first four weeks they have a compulsory introductory course of lectures in Obstetrics and Gynaecology and Paediatrics including Neonatology.

The students are then divided into five groups of 30 students per group and each group receives instruction for a period of eight weeks with an examination at the end of the period. Each group of 30 students is divided into small groups of 2-3 students and are sent to certain approved hospitals in Wales for training, to return to the college for the examinations at the end of each block.

The blocks are as follows:

1. Paediatrics and Neonatology
2. Obstetrics and Gynaecology
3. General Practice, Anaesthetics and District General Hospital
4. Psychological Medicine and Ophthalmology
5. Cardiology, Orthopaedics and ENT.

An evaluation of the modified medical curriculum outlined above over the past decade and a half suggests that the young medical graduate who is a product of it is better equipped to deal with Primary Care Medicine in the Community. If he or she opts for one of a variety of possible areas of specialisation, the curriculum would also have offered the basis of knowledge to pursue further studies in the speciality chosen.

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"That we should allow our system of medical education to be warped by institutions where admission is solely dependent on the ability to pay large amounts of 'capitation fees' is an indictment of society. That such colleges are permitted to exist and proliferate without adequate scrutiny of their quality is a corruption of medical education, a prescription for mediocrity and a callous disregard for the health of the community".

Menon G N. Comments at the Menon Foundation Symposium, Madras, February 24, 1990.