AIMS AND CONTENT OF THE MEDICAL CURRICULUM

UNDERGRADUATE MEDICAL EDUCATION

BY

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It is significant of the times that a symposium on undergraduate medical education should have been sponsored by the World Medical Association with the active co-operation of the World Health Organization and other international associations. Since the World Health Organization started work on an international scale in the field of prevention and cure of disease, it has become increasingly clear that the personnel of the medical profession must possess a minimum basic qualification if they are to participate effectively in the furtherance of programmes in the different countries concerned. In its preamble the World Health Organization's concept of health has been clearly defined as "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity." This implies a wider concept of undergraduate medical education than that which was accepted 30 or 40 years ago.

The objectives of medical education have undergone significant changes during this period and the duties and responsibilities of the basic doctor have widened and increased. His concern is no longer the cure of the individual patient entrusted to his care. The preventive aspects of disease have long been emphasized, and it has been suggested that during the whole period of his clinical studies the student's attention should be directed to the role of preventive medicine in the promotion of health. It must, however, be admitted that in many schools little or no real progress has been made, because to learn the fundamentals of preventive medicine one should go to the field, to the very source where the problems are being tackled. They cannot be learnt by didactic lectures or through references made during clinical demonstrations.

Medicine and Society

In recent years it has been realized that another aspect of medicine deserves increasing attention—the study of social pathology in relation to the causation and incidence of diseases and their prevention. Public health has been largely concerned with communicable diseases—their causes, distribution, and prevention; while social medicine is concerned with all prevalent diseases which have their epidemiologies and their correlations with social and occupational conditions, and should ultimately be regarded as to a greater or less degree preventable. Social medicine is thus concerned with the pathology of families, groups, societies, or larger populations. The medical student has therefore to be familiarized not only with the pathology of the diseased condition in the patient but with those more important conditions in the home, family, and community whose prejudicial effects may have been the causal factors of the disease and may unfavourably influence smooth convalescence and recovery, if they do not actually promote its recurrence.

Clinical and Preclinical Studies

In will therefore be seen that during the past half-century there has been a changing concept of the relation of medicine to society. It must necessarily follow that this change of concept should influence the trend of medical education and reorientate the methods pursued in undergraduate medi-

cal education. The course of undergraduate medical study is conventionally divided into two parts—the preclinical and the clinical. In the light of present-day requirements this would seem to be an artificial distinction, and the greater the degree of integration between preclinical and clinical subjects of study the greater will be the young undergraduate's appreciation of the fundamental medical sciences and their application at a later stage of the studies.

Anatomy and physiology as basic medical sciences are undoubtedly of great importance to a proper appreciation of the clinical studies at a later stage. But to the young undergraduate in medicine the study of these subjects is of importance and interest more in their applied aspects and in their relationship with a clearer understanding of their application in clinical medicine and surgery. It is obvious that reform in the present curriculum that would integrate the basic sciences with the clinical courses is necessary, and, with this end in view, the simultaneous use of the patient as a means of stimulating the student and aiding his memory would be of great value. Thus some of the time now devoted to the preclinical sciences might well be used to give the student an opportunity of gaining some clinical insight, his time being employed with more profit in the performance of blood counts, urine analysis, and the observation of such pathological factors as would enable him to gain a firmer knowledge of the underlying physiological principles.

Likewise, during the clinical period some time must be surrendered to the basic science faculties to permit the presentation of such anatomical, chemical, and physiological information as would be better appreciated at that stage by the clinical student. Most medical teachers will agree that, whenever possible, the content of courses in the premedical curriculum, particularly science courses, should include a generous amount of medical orientation. It would add to the student's interest and enthusiasm, tend to unify the educational process, and this could be done without any violence to the values of discipline in pure science.

It is hardly necessary to state that the study of pathology has developed into one of the most important basic medical sciences. Herein the undergraduate is introduced to disease: he sees the damage that is wrought by various factors and studies the changes in tissues in various stages of disease and the reaction of the tissues in their effort to conquer it. The gross and microscopical study of disease tissues thus helps him to a better appreciation of the laboratory sciences and clinical medicine. The same applies to bacteriology, which has grown at such a rapid rate that, along with chemistry, a new chapter has been added to the study of factors which control reproduction in bacteria. A good foundation, therefore, in this basic medical science and its techniques is essential for any well-trained physician.

One of the chief problems connected with the medical curriculum is the place that should be given to the specialties. With the ever-increasing number of specialties, there is always a demand that a study of these subjects should form an integral part of the medical curriculum. The result has been that the undergraduate syllabus is overloaded with a miscellaneous variety of factors. In the anxiety to get the undergraduate to know something of the ever-increasing number of specialties the necessary time is not available for him to get a thorough grasp of the fundamentals of medicine and surgery and to become really familiar with the methods of diagnosis and of rational deductions.

Supervised Work

It is true that the amount of time devoted to didactic lectures has been steadily decreased, to enable the undergraduate to spend more time in supervised work with patients in clinical clerkships. Whether these clerkships are in the wards or in the out-patient department is not so important as the character of the supervision and guidance he receives from interested and inspiring teachers. The object of the clerkship is to provide an opportunity for a student to follow his case long enough to gain a lasting understanding of the natural history of the disease and the methods by

which it can be treated. With the rapid extension of laboratory tests of great accuracy there is a tendency to rely more and more on laboratory reports and less and less on the examination of the patient, the history of the illness, the family history, the environmental conditions, and the exercise of a wise clinical judgment. In many cases, of course, laboratory findings are required to arrive at correct conclusions, but the student must never be allowed to forget that the most essential consideration in arriving at a correct diagnosis is to study the patient in all his aspects and not to come to conclusions on laboratory tests. The laboratory must serve as a good servant and not be permitted to become the overlord.

As the student advances in his use of observation and deduction great help can be gained through conferences, seminars, clinical lectures, ward rounds, and case presentation by students themselves; these should all be regarded as essential elements of a well-conducted clerkship. Equally essential is it for the student to realize that the knowledge and experience of other professional and technical persons associated in the service of the patient are of great value. Nurses, medical social workers, dietitians, dentists, and others have a contribution to make to the students' better understanding and appreciation of the patient. The clinicopathological conference is the foundation of all educational progress for clinical clerks as well as for interns, residents, and the whole staff: it is at these conferences that the test of good and bad medical practice and teaching can be judged. There is no substitute for it so far as intellectual discipline and stimulus to professional improvements are concerned.

The Aim of Teaching

The aim of undergraduate medical education is not to provide training in the highly specialized fields of medical and surgical treatment but to give a thorough grounding in the knowledge and synthesis of general medical and surgical diagnosis. Let it be realized that undergraduate medical teaching serves only to lay the foundation for the creation of interest in a subject of ever-increasing complexity and to arouse in the student a psychological curiosity to develop the basic methods and principles that have been ingrained in him.

The successful medical practitioner is a perpetual student, and, in the light of the many developments that are taking place, thanks to the impact of the discoveries of basic sciences on medicine, it can easily be realized that it is not the knowledge of many unrelated facts but the analytical and the progressively expanding mind which will help the student to keep continually in touch with all receptive ideas in the field of science, particularly in its relation to medicine. The chief emphasis, therefore, should be on developing the student's broad understanding, scientific aptitude and approach, powers of accurate reasoning, judgment, resource, initiative, and a determination to put to test the knowledge that has been gained through study and observation.

It is from this point of view that the whole programme of undergraduate medical education should be reviewed. If specialization at the undergraduate level hinders the organization of a unified curriculum, if the curriculum tends to create any rigid barriers between basic medical sciences and the clinical instruction which should follow later, if it does not help to relate the education to the broader culture and science of the times both in the field of preventive medicine and in that of its social implications, then undergraduate medical education will have failed of its purpose. Medical students should be stimulated and inspired by modern concepts of social medicine to realize that they are responsible citizens of the future who should apply their profession, and the knowledge that they have gained, to the benefit of humanity.

An Interesting Period

One of the most important periods of a medical student's career is the period of internship. He looks forward to this with great interest. The intern is not burdened with

a schedule of classes and prospects of formal examination. He is free from the inhibitions of his undergraduate stage of study, and he has the joy of working with experienced clinicians and seeing how they combine the science and art of medicine in the treatment of their patients. The internship should strengthen and not weaken the student's appreciation of high scientific and ethical standards of practice. In the past, and as it still is in some schools, while the internship was regarded as a part of undergraduate medical education, it was almost entirely concerned with curative medicine. It thus failed in its objective, because internship, properly regulated, should contribute to a better appreciation of the possibilities of preventive and social medicine, and put the intern into closer contact with the life of the patient in respect of environmental conditions, his occupational hazards, and the manner in which he can be rehabilitated. The internship should therefore be utilized as an opportunity of studying community medicine in all its many ramifications through public and private agencies, and should serve as an experience in the practice of preventive as well as curative medicine, in community medicine as well as in hospital and in the out-patient department.

Conclusion

Thus it will be seen that no part of medical education is so important as that of the undergraduate, and, if the foundations are not well and truly laid, and the broad basis of the objectives of undergraduate medical education not thoroughly appreciated, the role that the future practitioner will be called upon to play will not be fulfilled and the usefulness of the trained doctor will be limited. Medical schools, the teaching profession in the faculties, and all concerned have to realize, therefore, the need for reorientation of the policy of undergraduate medical education, as indeed of all education in the field of medicine.

TECHNIQUES AND METHODS OF MEDICAL EDUCATION

BY

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It is an honour and a privilege, which I greatly appreciate, to preside over one of the sections of the First World Conference on Medical Education. I interpret this high distinction as one of the many indications that the medical profession is really one large institution, without geographical or racial barriers, making a generous effort to achieve a better mental and physical health for mankind. I have not the time to refer specifically to some of the techniques and methods which are actually used in or must be introduced into medical education. The distinguished list of contributors to this section, the variety of subjects to be considered, and the subsequent discussion which they will elicit are indicative that this important phase of medical education will be adequately investigated. It is almost unnecessary to say that our considerations will be closely related to those made in other sections. Methods and techniques are dependent, in part or wholly, on the premedical preparation of the students, the orientation and contents of the medical curriculum, and the new trends in preventive and social medicine. For these reasons it appears to be more pertinent, as a sort of introduction to our work, to comment briefly on the general aspects of the problems we face when we attempt to discuss medical education.