MEDICAL EDUCATION IN INDIA

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I have been a social worker all my life and ten years of office as Minister for Health in India have given me tangible experience in this particular sphere of service, an experience which has greatly enriched my life.

Since a high standard of health is a nation's greatest asset, and since the responsibility of serving in this field falls on the shoulders of the medical world, the education of doctors and other medical personnel is of the utmost importance. Medical education therefore is today a subject which requires serious and earnest study by all national and international organisations, as also by individuals with a wide range of experience as teachers and research workers and by distinguished exponents of the science and art of medicine. Any views that I express will, I trust, be viewed with tolerance by experts. They are in the nature of an assessment of the trend of progress in the field of medical education in India, drawn from the experience referred to above and strengthened and illumined by close association over many years with experts, both foreign and Indian, in this field.

The Purpose of Medical Education

It is conceded by all that the purpose of medical education is to produce doctors who will be able to undertake successfully not only the prevention and treatment of disease, including rehabilitation as far as possible of those incapacitated by various forms of sickness, but also the promotion of positive health whereby the range of man's enjoyment of life is expanded and his usefulness to the community strengthened and rendered more effective. The medical educator must perforce understand the needs of the people. The more correctly he is able to envisage the prospective growth of health needs in the community, the more purposeful will be his planning of the programme of medical education and its translation into practical action directed towards the production of the desired kind of doctor.

The Expanding Role of Medicine and Selection for Medical Education

The role of medicine has been enlarging con-

tinually and a wide variety of specialisations useful to medicine has therefore grown up over the years. Apart from doctors who became general practitioners or specialists in particular branches of the healing art, we find others increasingly interested in the physical and biological sciences. Advances in these sciences have a direct bearing on the growth of medical science and research. Further, as man's ill-health and well-being are largely influenced, not only by his physical and mental equipment but also by his social and cultural environment, the social and behavioural sciences, even though their processes of investigation and of quantitative expression of results may today lack precision to the extent attained by other sciences, are becoming increasingly utilised by medicine to study and deal with the patient in his social setting as well as to interpret problems of disease and health as community phenomena to be tackled progressively on a scientific basis. The quantitative approach that is needed for medical studies of all types, whether they be in the laboratory or in the wider field of community life, has brought to the forefront the need for doctors to learn the elements of statistical science, so that they may bring to the tasks which face them some knowledge of the methods of reasoning and of the process on which scientific data are to be collected and analysed. With the conquest of communicable diseases and control over man's physical environment, which science has made possible, a study of the role of heredity in the propagation of defects and of ill-health is gaining greater prominence and must begin to receive increasing attention, if the steady rate of successful progress in combating disease and in promoting health is to be maintained and accelerated. Medicine and genetics must therefore collaborate to a growing extent to achieve these results, and the future will no doubt see that genetics becomes another field for specialisation for medical men.

The Special Needs of India

This expanding task of medicine in promoting, along with other sciences, a steady advance on a broad front towards a progressive realisation of improved health and working conditions for all

mankind is one which India will undoubtedly share with other countries to an increasing extent in the coming years. Nevertheless, there are today certain urgent needs of India which differ from those of the more advanced countries and our national programme of medical education must make provision to meet those needs. For example, there is the field of undergraduate training and its reorientation, there is the emphasis which has to be laid on the preventive aspect of medicine, there is the problem of promoting a rapid expansion of medical personnel without producing an undue loss of quality in the training programme, there are the preparation of the prospective doctor for rural health work and the creation of conditions during the training period calculated to develop in him a social outlook and a spirit of dedicated service to the people.

Although this article is intended to deal with medical education and not with the problems of employment of doctors after their training, it cannot be too strongly emphasised that the two are closely inter-related. India being a land of villages, a rural bias in the curriculum should be encouraged so that our young doctors may early have some experience of work in villages. Moreover, the production of doctors, unless it is linked with adequate opportunities for gainful employment, will create an extremely unsatisfactory situation, of which there is abundant evidence even today due to an unhealthy concentration of doctors in the urban areas. While the needs of the rural population are undoubtedly the most important factors to reckon with in a national programme of medical care, inadequacy of provision to make rural medical service sufficiently attractive has resulted in making it difficult to fill even existing posts under the present schemes for expanding medical relief to the inhabitants of our more than half-a-million villages. Our cities provide a lucrative practice to those who are at the top, but there is a large and growing number of others for whom the prospect is one of continuous struggle through a process of severe competition, which often leads to a lowering of the standards of professional performance and a neglect of professional ethics. Under our present conditions, adequate medical care to the people can be organised only on the basis of a broad-based system of provision mainly from public funds. Our rural communities are too poor and too sparsely distributed to give much financial support towards a medical service of a reasonably high level of quality. Even in urban areas, the proportion of those who are just at the subsistence level and of others at the sub-subsistence level is so great that the State must take the major share in the organisation of health protection to

these people. Moreover, modern medicine, while it has become tremendously effective in curing disease and in rehabilitating the sick, has also become exceedingly costly from the point of view of the equipment, trained personnel and other facilities required by a group consultative practice for its successful functioning. When even an advanced country like Great Britain has found it necessary to establish and maintain a National Health Service, which offers to the people medical care on a broad basis at a minimum cost to the individual, it seems to me obvious that in India the goal must be the same as that of Great Britain, even though for financial and other reasons it may not be possible for us to reach it except by successive stages of planned development.

If the accepted objective is to fit the prospective medical practitioner into a national scheme of medical service to the people, properly organized and developed at various levels territorially and with reference to the different types of services that are to be rendered, then the scheme of medical education will acquire a meaning and a purpose which may be somewhat different from that of just producing doctors who will provide medical care to the people on a purely contractual basis between the practitioner and the patient.

Emphasis on Prevention in the Training Programme

In the progressive countries of the West the control of communicable diseases has been established to a remarkable degree and a high level of environmental hygiene has also been attained both of which have contributed to a large extent towards reducing the rates of incidence of such diseases. The result of such control over infectious diseases has been to prolong the life of the people in a manner undreamt of in the past and the disease pattern in the community has simultaneously undergone a change, giving prominence to cardio-vascular-renal conditions and diseases like cancer. In India the picture of ill-health among the people is different, infectious diseases still playing a predominant role in causing morbidity and mortality.

Control of infectious diseases and the preventive aspect of medical practice should therefore receive special emphasis in India. In the wide rural areas of the country a combined preventive and curative medical service can alone meet the needs of the inhabitants. Therefore the training programme for the undergraduate must be so designed as to equip him for this dual function. The role of the department of Preventive and Social Medicine in the training of the medical student is one of

paramount importance in India, as indeed in all Asian countries.

Until recently the teaching of preventive medicine had confined itself to environmental hygiene. This is of course an important subject, but while the doctor should have some acquaintance with the problems of providing a sanitary environment for the community, the main tasks in that direction are really the responsibility of the public health engineer. The doctor should be concerned in dealing with the preventive aspect of disease with problems of two types, namely, those relating to the individual patient and those which relate to the community. As regards individual patients, the preventive outlook demands of the doctor diagnosis of the condition of ill-health at the earliest possible stage, a speedy application of appropriate measures, promotion of the conservative methods of remedial care as far as may be possible and the adoption of measures designed to facilitate the rehabilitation of the patient so as to enable him to retain his working capacity and ability to enjoy life unimpaired to any great extent. In relation to the community the doctor should be trained to take all the necessary steps to prevent the spread of infectious diseases from the patient to others. Such measures may include appropriate advice to the members of the family of the patient, enforcement of segregation of the patient where necessary, immunisation of those who are likely to be exposed to infection and such other steps as may be deemed desirable in respect of individual diseases. Unfortunately, it is all too common today that a doctor called in to see a patient suffering from enteric concerns himself mainly with the treatment of the patient without recognizing that the preventive duties his profession enjoins on him to perform are even more important from the standpoint of the community than the saving of the life of a single person.

Disease and health cannot be properly understood and assessed without considering the individual in relation to his total environment, physical and social. An essential part of the teaching programme for preventive medicine should therefore be to acquaint the student with the home conditions of the patient. In providing for such opportunities he should be as much under supervision and guidance as he would be when dealing with patients in the wards. The programme of home visits should be carefully prepared and the student should normally be accompanied by a trained medical social worker. Further, it will be useful if, as occasion demands, the student is accompanied by a professional member of the Department of Preventive and Social Medicine, a member of the staff of the ward to which the patient has

been admitted, or a specialist such as a psychiatrist or a paediatrician.

In the college and hospital there should be the fullest possible collaboration between the Department of Preventive and Social Medicine and other departments. The main responsibility for the organisation of teaching communicable diseases can be taken over by the Department of Preventive Medicine. But it is always an advantage if the teaching programme is itself made a collaborative effort between departments as has been stressed by the General Medical Council of the U.K. For instance, in dealing with typhoid fever, the Departments of Medicine, Microbiology, Pharmacology and Preventive Medicine may all take part so as to present to the student a composite picture of the disease including its causative factor, the modes of spread, clinical signs and symptoms, complications, the action of drugs and different forms of treatment as well as the measures to be taken to prevent the spread of the disease.

The department of Preventive and Social Medicine stands to gain considerably by close contacts with clinical departments. The clinical departments too will have their horizons widened by opportunities to participate in visits to the homes of the patients. These visits should help to emphasize the fact that, in seeking to understand the natural history of disease and in promoting measures to cure the patient and to rehabilitate him, it is wrong to isolate him from his environment and consider him as the victim of a number of specific pathological conditions.

The Problem of Quantity versus Quality

The number of medical colleges in India has grown at a rapid rate during recent years. Within a period of less than fourteen years the number has risen from 17 to 52. This expansion has been in response to the rising demand for medical education which is today so great that those who apply for admission constitute three or four times the total number of vacancies that are available. The rapid increase in colleges, however urgent and imperative the need, has been accompanied by grave dangers in respect of the standards of training that are essential. A fall in standards has been promoted by a variety of causes, of which some of the more important are the following:

- i. Inadequate preparation of the entrant for medical training.
- ii. Insufficiency of facilities for training, including accommodation, equipment and staff.
- iii. Unattractive scales of emoluments and conditions of service, which fail to secure and maintain teaching personnel of high quality in a manner likely to enable them to devote

adequate time and attention to teaching and research.

- iv. The time lost in holidays and vacations, which reduces substantially the number of working days in the year; and
- v. Examinations and the large percentage of failures in them.

This is by no means an exhaustive list, but the causes mentioned above constitute important factors in lowering the standards of medical education in the country as a whole.

General education up to matriculation is now given in the regional language all over the country, English occupying only the status of a second language. At the university level the medium of instruction suddenly changes into English and then the student often finds it difficult to follow and understand what he is taught. Moreover, there is reason to believe that, with a large increase in the number of institutions for general education, there has been a definite fall in efficiency. A levelling up of general education in the pre-university stage is an essential step if the trainees for higher education in the university, in scientific subjects in particular, are to be brought up to desirable standards of proficiency.

The rapid increase in the number of medical colleges has been carried out, in some cases, without due regard being paid to the sufficiency of accommodation, equipment and teaching staff. In some cases, the number of clinical beds available to individual students has fallen short of the desirable minimum. The emoluments paid to teachers have generally been low and they have been permitted to supplement their incomes through private practice. In consequence there has been a tendency for both teaching and research to suffer. The view has recently been gaining ground that every department in a medical college should have a unit of full-time workers from the professorship downwards, so that this team may be expected to become the core from which radiates a high level of performance in teaching and research. Financial and other difficulties have stood in the way of speedy attainment of this objective. It is however hoped that the trend will be in this direction and that, in due course, the much needed improvement will take place. It may be mentioned here that, in the All-India Institute of Medical Sciences, every teacher from the highest to the lowest is on a full-time basis and is not permitted to have private practice.

There is ample room for shortening the periods spent on holidays and vacations and for lengthening the time spent in active study.

Examinations, the pressure they bring to bear on the students and the unduly large percentage of failures they produce are an unfortunate feature

of medical education in India, the ill-effects of which need to be remedied at an early date. Proper and rigorous selection of students for admission to medical colleges and a raising of the standards of training through the process of making up deficiencies in accommodation, equipment and teaching staff are essential. A much smaller teacher-student ratio than that which prevails at present is necessary to enable teachers to pay more personal attention to individual students in the classroom, the laboratory and the hospital ward and a weeding out, at the end of the first year's course, of those who lag behind desirable standards of performance is equally necessary. It is understood that there is a tendency now in medical colleges to give credit for class-work during the courses and to take into account such credit along with the marks obtained at examinations in making a total assessment of each student. This is all to the good and a general acceptance of this procedure is much to be desired.

In spite of the difficulties that have had to be faced in expanding medical education, a fair amount has been done since independence to reduce the ill-effects, indicated earlier, of such expansion. For a period of three years a medical scholarship scheme sponsored by the Government of India helped to provide postgraduate training facilities for some two hundred persons selected from different parts of the country. Later, international organizations such as the specialized agencies of the United Nations, including W.H.O. and U.N.I.C.E.F. as well as the Colombo Plan, T.C.M. under the Bilateral Agreement with the United States and, above all, the Rockefeller Foundation have helped to award annually fellowships for overseas training of Indians in medicine, nursing and allied fields. In the country itself postgraduate training facilities have been developed by the establishment of the All-India Institute of Medical Sciences, the upgrading of selected departments in medical colleges distributed over the country so that they may serve as teaching and research institutions in special subjects for the benefit of all the States, and the creation of special centres like the Leprosy Institute in Madras, the All-India Institute of Mental Health in Bangalore, and the Virus Research Centre in Poona to serve similar training and research purposes. There is also a scholarship programme for placing students, who are carefully selected, in all these centres of postgraduate medical education.

In the field of undergraduate training, under the five-year plans the Central Government bears a substantial share of the cost of establishing new medical colleges in the States, is prepared to meet the expenditure on the creation of whole-time units in individual departments of medical col-

leges, has been giving grants for equipment to these institutions and, through the Indian Council of Medical Research, the funds of which are derived practically wholly from the Central Government, has also been giving grants for promoting research in medical colleges and for the training of special teams of young research workers.

In this brief and rather perfunctory survey of attempts to improve medical education and provide facilities for research, I must not fail to give adequate recognition to the magnificent role that the Rockefeller Foundation has played in this field during the past forty years. In fact, if the whole programme of health development in India over the past dozen years is taken into account, the picture that emerges is one of a closely linked, collaborative effort between India and the international bodies mentioned earlier to reach out toward an increasing fulfilment of the country's urgent needs in such diverse fields as the training of health personnel, control of the more important communicable diseases and research into various health problems, including those of environmental hygiene.

Certain Suggestions

While making this survey of what has been attempted in the past, I do not want to minimize in any way the importance of taking stock of the situation and of forming an unbiased and independent assessment of achievements and of the deficiencies which have to be made up. I feel that such an assessment may with advantage be taken up by the Health Survey and Planning Committee, which was recently established by the Central Government under the distinguished chairmanship of Dr. A. L. Mudaliar, than whom I can conceive of no one more suitable for this onerous and important post. I have no doubt that, under his guidance, the Committee will give consideration to all the more important problems associated with medical education in India. Nevertheless I venture to put forward certain suggestions in the following paragraphs which I feel should not be lost sight of when the Committee applies its mind to this subject.

It has already been stated that medical colleges are springing up with a rapidity which seems to defy the organization, on a sound basis, of the necessary resources which alone can enable the institutions to function properly. In the absence of an adequate number of trained teachers new colleges have been brought into existence by utilizing the services of medical men with no teaching experience or of retired persons, whose availability is based on the fact that the age of retirement is generally 55. The question of

extending the retirement age of teachers at least up to 60 years appears to be one of great importance, especially during this transitional period of urgent need for more trained personnel and the shortage of the requisite numbers.

While the need for producing doctors in sufficient numbers to meet the requirements of the national health programme is no doubt urgent and important, it would be a terrible mistake to concentrate on quantity to the extent of permitting a substantial fall in quality. The matter is one of considerable importance and I do hope that the Committee will face boldly the task of putting forward practical proposals for utilizing the funds, equipment and personnel that can be made available in a manner calculated to promote the maximum production of medical manpower without any loss of efficiency in the training that is imparted.

I hope the Committee will also give consideration to the problem of defining as clearly as possible the relative roles of the Medical Council of India and of medical education in regard to the establishment and maintenance of desirable standards. The Council and the universities both have statutory functions assigned to them in this field, and a harmonious growth of medical education will require a clear demarcation of their respective roles. The functions of the Council were originally designed mainly on the same lines as those of the General Medical Council in Great Britain. In the changing conditions of India, rethinking on this matter is desirable. Moreover, it was pointed out during the Medical Education Conference in November 1955 that a broader basis than that now provided by the Council may be desirable for the discussion and formulation of proposals for promoting improvements in the training programme of the medical student and that the teaching profession itself should be closely associated with developments in this field. The establishment of an Association of Medical Colleges was therefore suggested. I feel that these are all matters which may with advantage receive consideration.

The University Grants Commission has been developing, during the past few years, a programme of financial support to universities and to the institutions affiliated to them, for an improvement of their standards of education and for promoting research. Medical education has so far been outside the purview of the Commission. In view of the variety of problems to be dealt with in the field of medical education, it is for serious consideration whether the creation of a body on the lines of the University Grants Commission would be desirable.

Teaching is a specialised art, and in the field of

general education, prospective aspirants for an academic career are required to undergo a course of training in teaching. Insofar as medicine is concerned, this requirement appears to have been ignored not only in India but in other countries also. The All-India Institute of Medical Sciences has as one of its important functions the training of teachers for other colleges in the country. For lack of funds the Institute is still in the early stages of development, but its early completion is of the utmost importance. The manning of our medical colleges with competent teachers and research workers will depend largely on the provision of adequate postgraduate training facilities. Our expanding national health service requires increasing numbers of specialists and consultants in the different branches of the medical care programme. All these point to a stepping-up of postgraduate training facilities.

There is yet another important matter which, in my opinion, is vital to the proper development of medical education and research in India.

The vast majority of our medical training and research centres are maintained by the Central and State Governments. Along with the financial support which Governments give there has been a growing tendency for governmental interference in the working of these institutions. Medical education with the need to promote its development on lines best suited to meet the needs of the country requires experimentation with new ideas and methods of training, and educational authorities are the best persons to discuss among themselves the approaches to such innovations and to initiate the necessary programmes of action. That is why I feel that a broad-based forum such as may be provided by the suggested Association of Medical Colleges would be welcome. Simul-

taneously a wide measure of autonomy must be given to teaching and research institutions. Control exercised by governments through their secretariats proves more often than not to be not only irksome to those in direct charge of such institutions but also detrimental to their proper development and functioning on sound lines. The deadening hand of precedent and of departmental red tape may even help to kill initiative in the institutions, and their growth may become stunted by the development of a tendency for those in charge of such centres to lean more on the judgment of lay administrative officers in government than on their own initiative and independent views. The killing of scientific initiative will be disastrous from the point of view of the development of medicine as a science through research and of establishing sound training methods for the creation of future doctors.

Institutions, like individuals, can develop in stature and fulfil themselves only in an atmosphere of freedom and of responsibility. I would urge that there should be boards of high academic talent, including members of the staff of each training and research institution and that, by a delegation of powers, these boards should be enabled to function with a wide measure of autonomy. All academic matters, including the promotion of research and the selection and appointment of employees in these institutions and their disciplinary control should be vested in the governing boards.

India has still a long way to go in every department of life. She has begun well in the field of health and I do sincerely hope that wiser counsels will always prevail and that nothing, however tempting, will be done to lower standards of medical education.

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