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- DOCTORS AND THE COMMUNITY HEALTH

swasth hind

JULY 1971

Community Health

Community health service has to ensure preventive as well as promotive health services to the entire population. It is important that the provision of health care should not only be more wide but also more equitably available to our people. The ends of social justice cannot be met unless all the classes of the people are able to get basic medical and health services. Poverty of the people for their being residing in rural areas should not become a bar for receiving medical and health care.

Medical education, thus, has to be re-oriented to achieve this end. The younger generation will have to be more sensitive to the current developments and demands of the community and become active participants in the great task of providing effective community health care. (*Please see page 198*)

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In this issue

Articles on health topics are invited for publication in this journal.

State Health Directorates are requested to send reports of their activities for publication.

Swasth Hind reserves the right to edit the articles sent for publication.

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LT.-GEN. S. N. CHATTERJEE

FRONTIERS OF MEDICINE

Great strides have been made in recent times that we are deeply interested in the pattern of medicine that the future will give us. In this article, Lt.-Gen. S. N. Chatterjee, Director-General, Armed Forces Medical Services, discusses this question at length. He poses two broad questions : Will the present concept of national health service be adequate to meet the new frontiers that medicine will reach ? What will be the new organization like ?

SPECTACULAR advances in medicine in the last 50 years are well known. Medicine and its practice are both undergoing rapid transformation. Disciplines like physics, chemistry and mathematics are no longer confined to the realms of the University, but are now becoming an integral part of clinical medicine. Biology and medicine in particular are notable examples of this inter-disciplinary mix and unification for the purpose.

The speed of advancement is so rapid that it is almost impossible for any single person to keep pace with it. There is hardly any gap between the use and application of lasers in surgery, the triumph of medical bio-engineering, which made possible the landing of man on the moon, an artificial heart valve, and then recognition of disease through chromosomal analysis. Daily we observe the fascinating growth of nuclear medicine, aerospace medicine, underwater medicine, molecular and genetic medicine, modern psychiatry and behavioural sciences.

Since the end of the Second World War, the progress in medicine has been much more rapid than in any other comparable period in the past. The study of biochemistry had led to an accurate knowledge of the contents of normal and abnormal body fluids, of the metabolism of organs and tissues, and of the nature, production and functions of essential hormones. We have learnt a lot of the structure of the cell, of its physical properties, and its biochemical content in different phases of activity. The study of genetics has illustrated the nature of many abnormalities. There is knowledge of the chemical nature of genes which determine hereditary characteristics. Discoveries in neurophysiology and in the vasomotor mechanisms have given us a more coherent picture of the mechanisms involved. Anaesthesia has been revolutionized by our knowledge in pharmacology and respiratory physiology. Technology has allowed the modern anaesthetist to continually monitor his patient and to provide safe and prolonged anaesthesia, to control blood pressure and muscle relaxation, in order that surgical procedures of enormous magnitude and severity can be carried out. Modern anaesthesia, our knowledge of haemodynamics, and the technological development of extra corporeal circulation has allowed the performance of open heart surgery. The study of immunology has given new concepts of diseases which have an autoimmune basis and increased our hopes of successful development of tissue and organ grafting.

Better knowledge of renal physiology and biochemistry has made it possible to do renal dialysis as a life-saving procedure, not only for tiding over an acute crisis but also to maintain the health of

patients with permanently damaged kidneys. Radiology has become the hub of every specialist centre with modern X-ray machines and sophisticated techniques. Practically any organ in the body can now be examined.

Newer Drugs

The new drugs and antibiotics have completely changed the pattern of medicine as we knew it before the Second World War. Many acute infections have been mastered. Pneumonia is no longer a dreaded disease. Tuberculosis has lost its place as one of the major killing diseases and sanatorium treatment is out of date. It is, however, true that we now meet many strains of bacteria which have developed resistance to antibiotics which initially were so dramatically effective. There is no doubt that the administration of antibiotics needs to be controlled. Several psychotic drugs have been discovered which have made the treatment of emotional and psychiatric disturbances of the present society more easy.

Glamour in Laboratories

There have been great advances in surgery, radiotherapy and chemotherapy of cancer. Some forms of cancer in some sites can be cured in the early stages with reasonable certainty. We also know now that the incidence and death rate of cancer of the lung can be greatly reduced if only we can give up smoking, However, not much success has been obtained in minimizing coronary diseases and other cardiovascular and rheumatic diseases. All this suggests that the glamour of the future of medicine will not lie in the hospital ward but in the laboratory.

Progress in medical techniques has resulted in specialization in various subjects not only by doctors but also by the para-medical personnel. Thus we have the nutritionist, physical therapist, occupational therapist, clinical psychologist, health physicist, electron microscopist, medical electronic specialist and so on. The general practitioner continues to practise the art of routine cure, alleviation and prevention of disease. However, the specialists seem to be continually narrowing their fields of specialities. Thus among the physicians we have neurologist, cardiologist, dermatologist, venereologist and psychiatrist. Among the surgeons, they have a category who call themselves proctologists who are happy to work in the dark confines of rectum. Before long these specialities would themselves multiply.

Aero-medicine

Pari passu with the medical and scientific advancement, diseases like coronary artery disease, diabetes, hypertension, etc., which are the result of affluence in society, have come to the fore. Increase in specialities dealing with them has led to the cost of medical care being well beyond the pocket of the ordinary man. It has become increasingly difficult to treat the person as a whole and safeguard his interest.

Military medicine has seen the development of transportable hospitals furnished with surgery in forward areas, increasing use of helicopter evacuation of casualties, and innovations of various equipments for use in the field. Limits of human tolerance to various physical stresses such as heat and cold, man's capacity to survive under abnormal environments such as deserts and high altitudes, have assumed enormous importance in the defence services.

Great advances have occurred in the aero-medical field in relation to rarefied atmosphere, effects of acceleration, vibration, noise, compression and decompression. Naval medicine has not been lagging behind. Considerable improvements have occurred in connection with decompression, diver energy requirements, thermal protection, the microbiology and toxicology required in connection with problems faced by sub-mariners, underwater swimmers, ocean salvage operators, etc.

Increased emphasis on specialization has led to the cost of medical care well beyond the pockets of the ordinary man.

The Future

What will happen in future? All indications are that broad-spectrum therapy will become more effective and preventive medical techniques will prevent diseases in most persons. Already there is evidence that diseases like penumonia, osteomyelitis, typhoid, malaria and kalazar, are tending to disappear. There is every likelihood that resistant organisms will increase, others will be let loose and viral infections will predominate. One is more likely to see large scale injuries resulting from accidents involving

automobiles, aerotransport and industrial machines. Atmospheric pollution, over-crowding and industrial waste will bring in new diseases. Even today in England, chronic bronchitis from smog and infection is the third cause of death and largest single cause of disability. Diseases caused by overnutrition, alcoholism and obesity will take their toll. Already this is happening in many parts of the world. Increasing longevity will increase the incidence of malignant diseases, degenerative diseases and geriatric problems.

Automated System

Increasing population, urbanization and industrialization will make the society function as an automated system. Already we are hearing of such terms as the Discipline of Futurology, Ultra large cities called Megalopolis and a new Society called Technetronic Society. This new term (coined by Professor Brazazinski of Columbia University) means a society which is shaped by the impact of advancing technology, electronics, communications and computers. Large groups of people will work for group goals. As such, to achieve efficiency and success, they will develop a state of emotional neutrality. This is likely to result in estrangement, alienation, and rebellion and disappearance of family as a social unit of life. To oscillate between the uses of tranquillizers and energisers may become the order of the day. For identity and anchor there is now a considerable fraction of world population indulging in the use of drugs like amphetamin, LSD and marijuana. More research will be demanded to determine the nature of drug addiction and improving the present methods of their treatment. The practice of psychotic diseases which has so far not been based on precise scientific techniques, will become more rationalized with a better understanding of brain and its functions with development of neuro-biology, neuro-chemistry and electronic devices. It seems, research will find a bio-chemical key to schizophrenia and a rational treatment of the disease will be in the metabolic ward instead of the mental institute. Selection of patients by histocompatibility, application of refined surgical techniques and a variety of methods to block immune rejection will come to the fore. Considerable progress has been made already in this field through local lymph mode irradiation, chemotherapy, antinomycin D, steroids and antilymphocytic globulin. More attention will have to be paid to understand normal pregnancy. Speciality of foetology will develop considerably. Ways and means will have to be found to prevent the foetus being adversely affected by viruses, radiations, drugs and infections. With a better understanding of aetiologic and bio-chemical aspects of birth defects, medical management and rehabilitation of such infants will improve. The demand for genetic counselling will increase. Facilities will have to be provided for eugenic abortion under the counsel of genetic specialist in certain blood diseases, myopathy, etc. We may then even perhaps resort to a central sperm bank for artificial insemination with a particularly successful brand.

The population explosion in the coming two decades will probably be so pressing that our scope of biology and medicine in understanding reproductive physiology will have to be greatly enlarged.

Genetic Engineering

We are on the threshold of the birth of genetic engineering. Scientists will be able to alter the existing genes of an individual by directed mutation or be replacement of others.

The rapid rise in population and the consequent changes in the social order does not allow medicine to remain a patient-doctor relationship. Medicine today has to cater to the health and care of the community as a whole. The population explosion in the coming two decades will probably be so pressing that our scope of biology and medicine in understanding reproductive physiology will have to be greatly enlarged.

Organ transplantation programmes will be persued more actively.

Surgical adventures are now going in for not merely heart transplant but for less accessive organs as if the goal of medicine is that of indefinite life. Perhaps in the end a man will live with somebody else's heart or liver or someone else's arteries but not with somebody else's brain. The connections of brain are so delicate and the information storage mechanism is so complicated that there is little hope for technical possibility for brain transplant. Moreover, recalling of

old stored information in the brain, transplanted in the new subject can be most embarrassing especially if it happens to be affairs of the heart. Even Aldous Huxley did not foresee brain transplanting in his novel 'Brave New World'.

Social Revolution

Simultaneously with the medical and scientific advancements, society has been passing through a great social and economic revolution. With increasing affluence people are asking for more and more fringe benefits. The expectant public will, therefore, demand a higher quality of medical care which should be inexpensive, if not free. The State will have to undertake to provide medical care to all its population. With the increasing sophistication and instrumentation it is getting easy to treat a disease but becoming difficult to treat a patient, to safeguard his interest, to progress his rehabilitation and to maintain the patient-doctor relationship.

Two Questions Posed

Today medicine can be compared with trade. A doctor's services are his stock which he sells to the highest bidder. He tries to set up his practice in a good-class locality so that he will get better return. He tries to sell his expertise to the man who will pay him the most and not to the man who needs it most. However, this system of private practice is sure to meet its doom. Firstly because there is requirement for more and more doctors and secondly there is gradual diminution of rich public who can support them. It is, therefore, inevitable that medicine will have the same position as education. The State will have to take care of medicine in a nation-wide service.

Will the present concept of national health service be adequate to meet the new frontier that medicine will reach or do we have to model a new organization to suit the future requirement?

What will that new organization be like?

I realize that predicting the future is a delicate task as it will involve assumptions and projections which may not come true. If these forecasts come true, the author is hailed as a genius but if they are not, he is labelled a day dreamer and a fool. However, the right to think and invent the future and plan an action is better than to be swamped by the future.

The future organization to my mind has to be completely different from what obtains today. A service based on the old system of central control without giving any freedom of action to the physician and forcing people to go to a Central or State hospital, to my mind, will not work. Like people belonging to the church of their choice, they have to belong to great health centres of their locality. There has to be several of such health centres in a megalopolis as it will be impossible to cater to the increasing population by State-run hospitals. These health centres will have to be supported by the community in the same way it supports its local church.

Health Education

The health centres will probably be organized to have a diagnosing wing, a treatment wing and a rehabilitation wing. A sick man gets his complete treatment when he passes through these three wings. To these three wings another special wing has to be attached which will treat alcoholics, drug addicts and those afflicted with diseases of the mind.

Each of these health centres will have a large auditorium for health education. Health education, prevention of diseases, freedom from environmental pollution will have to be given great priority. It is only then the sick rate requiring hospitalization can be kept to the minimum. Health education, therefore, has to be the most important function of medical service.

Environmental pollution will be the public health hazard No. 1 in the future. A beginning of this calamity has already started in many western countries. Man is his own foe in this respect. He started polluting his surroundings from the day he discovered the use of fire. The smoke from his cooking and heating fire did not affect him much as he had plenty of elbow room. But today, with the phenomenal growth of human species, environment pollution has assumed a critical situation and which will go on increasing.

Health education, prevention of disease, freedom from environmental pollution will have to be given great priority.

The future medical service will have to fight this as a dreaded public enemy.

The health centres will use sophisticated equipment and techniques. Use of electronic measuring and automated monitoring equipment for measurement of heart rate, ECG, blood pressure, respiration, p^H of blood and observation of patients by closed-circuit TVs, hospital cyclotrons, whole body counters' gamma camera and nuclear techniques, and the application of computers and automation in medical diagnosis will become a common affair. Pace makers are already whipping the tired hearts to new efforts and artificial nuclear hearts in a pocket size version are probably waiting round the corner.

The use of nuclear methodology, electronics and computers will compel a change in the teaching and practice of clinical medicine. The structure of the profession will, therefore, undergo changes. There will probably be five categories of professionals; first the general physicians who will concern themselves with emergency medicine and routine day-to-day illnesses, secondly the specialists who will be technical experts in narrow fields, thirdly the super specialists with knowledge and experience of integrated specialities, to be supported by a fourth category the medical research scientists who will engage themselves in experimental and cellular medicine, and lastly the medical technicians and para-medical personnel.

Community Medicine

It is likely, however, that in a country like ours, community medicine including control of communicable diseases, immunization, water and environmental pollution, housing and birth control will demand a greater share of our attention for years to come. Community medicine to be successful will need all the support of advanced technology, proper distribution of medical skill and effective organization. With progressively increasing industrialization, Industrial Medicine has to get more emphasis.

In the military field, development of atomic, biological and chemical weapons will demand a new branch of military medicine, should such weapons be employed in battle field or on cities. Weapon technology has already resulted in achieving a high power of destruction and precision to make even short wars, with consequent mass casualties, a serious problem. Techniques and organization for the management of such mass casualties in future will have to be evolved. Before, during and after such a war a host of psychological and psychiatric problems will crop up and these also will have to be treated on a mass scale.

Nuclear Medicine

Nuclear medicine has already contributed to our knowledge of medicine and its practice. Today, radio-isotopes are being widely applied in the investigation and treatment of thyroid disorders, blood diseases, cardiac and peripheral vascular conditions, kidney functions and liver disorders. India is among the few countries engaged in this field.

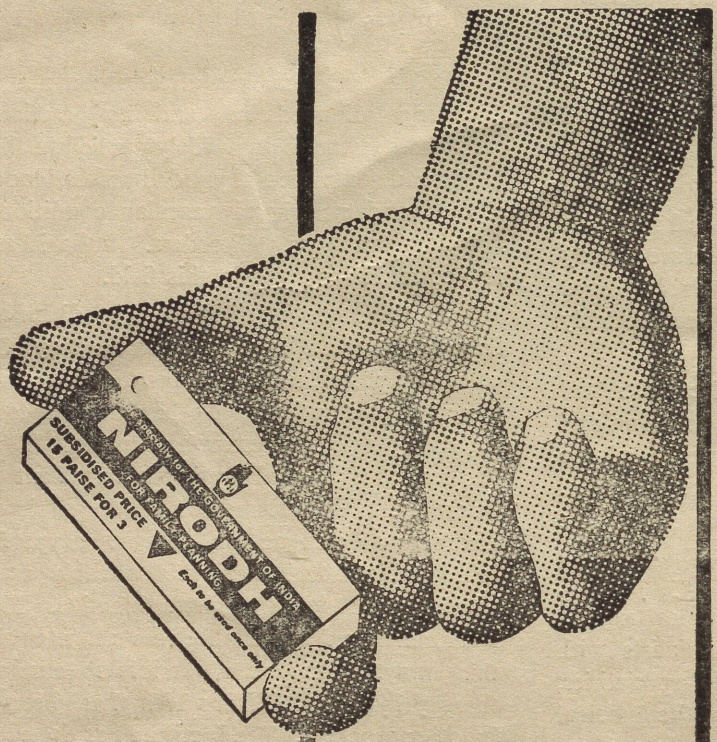
At the Institute of Nuclear Medicine and Allied Sciences, New Delhi we have a wide array of sophisticated equipment, radio-isotopes of iodine, phosphorus, mercury, gold and several other elements for diagnostic, therapeutic and research purposes. The Institute has made much headway in the treatment of thyroid disorders. I^{131} is used for the diagnosis of thyroid disorders as well as for therapy. Hyperthyroidism is treated by administering a suitable dose of I^{131} to render part of the gland inactive. The isotope is administered in small doses at intervals and in this way, it has been possible to eliminate post-therapy hyperthyroidism which has been reported by other workers. The Institute has done pioneering work in the treatment of Parkinson's disease with I^{131}. The relief lasts for six months to two years and subsequent treatment has to be repeated. It seems, however, possible that the relief obtained by I^{131} can be augmented by L-Dopa. A combination of the two treatments is worth trying.

The Institute is also doing research on kidney and heart ailments, particularly on intractible angina. Renal hypertension is receiving special attention. Other fields of research include health physics and nuclear hygiene. An interesting research project in progress relates to control of mosquito population. Mosquito eggs have been hatched and the male pupae subjected to radiation. The results indicate that the full grown mosquito can be rendered infertile. In a similar way, it may be possible to control cockroaches which is a problem for the Navy and Merchant Ships.

New Problems

Industrialization and large scale use of isotopes have raised medical problems in relation to human

(Continued on page 204)



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The belief is held by many people that basic health problems in the world have been solved. This over-optimistic view leads some economists and administrators to underestimate the role of the health component in economic and social development programmes.

HEALTH IN THE SECOND DEVELOPMENT DECADE

DR M. G. CANDAU

Two events which are taking place this year— the commemoration of the twenty-fifth anniversary of the United Nations and the launching of the Second Development Decade—prompt me to depart from previous practice and take an overall view of some major health problems instead of commenting on the main activities carried out by WHO during the past year.

In reviewing past developments and projecting them into the coming ten years it would be easy and pleasant for me to give an inventory of progress made recently in international public health. Figures are available to illustrate the gains made against the age-old scourges which cause untold human suffering and are still one of the main factors retarding the social and economic advance of the underprivileged populations of the world.

Malaria, the most important public health hazard from both the medical and economic points of view, is a case in point. During the last two decades, 35 out of the 145 countries and territories classified as malarious areas have eradicated the disease, while 50 others are engaged in campaigns, many of them quite advanced, which should provide safety to hundreds of millions of people. The annual average of reported smallpox cases—about 100,000 in the early sixties—has been reduced by approximately 50 per cent. Extended BCG vaccination and administration of drugs have made significant contributions in the prevention and treatment of tuberculosis, an affliction of concern both to developed and to developing nations. Chemotherapy is responsible for some advances in the control of schistosomiasis, one of those elusive parasitic diseases which sap the vitality and working capacity of many emerging nations. Owing to improvements in sanitation and in the quality of services responsible for maternal and child health, the infant mortality rate has been reduced during the First Development Decade by anything from 25 per cent to 50 per cent in a not insignificant number of developing countries.

Achievements such as the ones just mentioned clearly demonstrate the effectiveness of co-operative action by national and international organizations. Impressive as the results are, it would be misleading to draw overoptimistic conclusions about the state of health of the world or to underestimate the role of the health component in the general process of economic and social development. A cursory glance at the wide belts of shadow which continue to darken the global health map should dispel any tendency to complacency. Cholera moved westward during the sixties, almost as far as the gates of Europe. It is still endemic in many parts of Asia, and there was an increase of nearly 15 per cent in the number of cases between 1967 and 1968, the last two years for which statistical reports are available. Neither is there any sign of a significant decrease in the incidence of human plague; on the contrary, there are indications that the old foci of the disease

in South America and Asia are becoming more active after having been dormant for many years.

It has been estimated that some 300,000,000 people, mostly in Africa, still continue either to suffer from outbreaks of malaria or to be exposed to the risk of this debilitating disease. During the last few months of 1969, five countries in West Africa experienced epidemic outbreaks of yellow fever. More than 400 million people living in the developing areas of the world are affected by trachoma, the greatest single world cause of progressive loss of sight. Vast numbers of human beings are exposed to various other parasitic diseases, including schistosomiasis, filariasis, onchocerciasis, ascariasis, and trypanosomiasis.

It should not be forgotten, furthermore, that the effects of most of these afflictions are compounded by the vicious circle linking parasitic infections to nutritional disorders.

It is not my intention to submit an exhaustive analysis of the serious implications that widespread morbidity and mortality have for the general development of the emerging countries. I do hope, however, that the examples I have just given will suffice to rectify the unfortunately all-too-optimistic opinion held by some economists and administrators that virtually all basic world health problems—with the exception of those resulting from the increase in the world's population—have already been, or are about to be, solved.

The erroneous belief that all goes well in the field of health has even more dangerous implications when it is applied to the appraisal of WHO's role in relation to one of the central problems of our time—the accelerated rate of increase in population in many countries. There is indeed a real danger that in pursuing its basic objective—the steady improvement of health conditions throughout the world—WHO will be held responsible for increases of population. Such a line of thinking must be rejected since, if taken to its ultimate conclusion, it would re-establish one of the classic Malthusian checks on population growth—reduction in numbers not by wise family planning, in which we all believe, but by the fatal depredations of unchecked disease.

This is the time and place to restate WHO's position on the fundamental health aspects of population dynamics, since the Organization's role in this important field of contemporary public health has too often been misunderstood.

WHO's major objective for the Second Development Decade is to help Member States to achieve a higher level of health. The Organization's assistance in the preparation and execution of family planning programmes is being provided and extended within that context.

Development of basic health services is the prerequisite in raising the standards of maternal and child care, including family welfare planning.

As is already known, the Organization, according to its mandate, does not promote or endorse any particular population policy, but does, upon request, assist its Members in the development of family planning activities as part of their organized health services.

It is gratifying to report a considerable increase in such requests from WHO's Member States. We are meeting these as integral components of the Organization's advisory services, education and training programmes, promotion and support to research, and documentation services. This expansion is being made possible by the additional resources becoming available from the United Nations Fund for Population Activities and by contributions to WHO's Voluntary Fund for Health Promotion, donated for work in human reproduction, family planning, and population dynamics. Increased and effective co-ordination and collaboration in this area have been established with the United Nations, the specialized agencies, and the governmental and non-governmental organizations concerned.

Of the pre-requisites to progress in this field, first and foremost is the development of basic health services, upon which any attempt to raise the standard of maternal and child care, including family planning, depends. As long as maternal and infant mortality and morbidity remain high in the developing countries, it is difficult to convince couples that a reduction or spacing of births is in the interest of

the health of the mother and child, the happiness of the family and the welfare of the community.

Priority must go to the training of health personnel responsible for family planning and to the integration of family planning into the general health services. The doctors, the nurses, the midwives and the other members of the health team must acquire an adequate understanding of the problems involved in family planning, so that they can provide the necessary services and instil in the couple the desire and motivation for family planning.

A minimum of medical care must also be available for providing modern contraceptive information and materials as well as speedy assistance should anything go wrong. In this latter connection, let us not forget that news of a single adverse incident, for example a woman who has difficulties with a contraceptive device and is unable to find the assistance needed, spreads quickly through a community and counteracts with disastrous effectiveness all efforts to explain the benefits to be derived from family planning.

There is also an urgent need to strengthen research activities, particularly in the less developed countries, where studies in human reproduction and fertility control should be given high priority but where money and staff for research are badly lacking. Such national research programmes will of course have to be co-ordinated and supplemented by investigations carried out by international institutions. WHO is much concerned with research and research training, and is prepared to take a central role in a vast co-operative programme of clinical, biological, psychological, and physiological research relating to population problems, and to invite the participation of international and governmental organizations and of private bodies concerned with public welfare. One of the main purposes of such an undertaking would be to learn more about the technology of fertility-regulating agents, including the long-term consequences of various methods. Several methods that meet the criteria of effectiveness, safety, acceptability, inexpensiveness, etc., must be developed, as no single method is likely to meet the social, cultural, aesthetic, and service needs of all individuals and communities.

It is gratifying that the Economic and Social Council is taking up the question of the so-called "brain drain", which WHO realizes may adversely affect the outcome of many assistance programmes scheduled for the Second Development Decade.

The "brain drain" must be distinguished from the free international movement of scientists. This has long been a historical fact and, far from being detrimental, has promoted the scientific and technological exchange of ideas from which the world as a whole has benefited. But we must deplore the outflow of professionals—in our case of health professionals—when it is a one-way traffic resulting in considerable gains for the countries to which the flow is directed and corresponding losses for the countries which can least afford them. Here the expression "brain drain" is in a certain sense a misnomer, since generally what the developing countries are being deprived of are the usual but essential services for which the average physician, nurse, and other health worker have been trained at great expense to those countries.

A number of measures, if taken by the Member States, might reduce the dimensions of this disturbing phenomenon. Difficult as it may be, the developing countries must seek to create, even if only on a modest level, some of those internal conditions which discourage emigration : better conditions of work, greater chances of promotion, and the possibility for the health professionals to engage in certain forms of scientific work in which they may be interested.

The magnitude of this one-way movement of health professionals is, of course, only one of the manifestations of the prevailing world shortage of health manpower, which in the developing countries is the most serious single obstacle in the way of the creation and strengthening of the all-essential basic health services.

The two most crucial issues of our time are: man's adaptation to this new world of his own making and the preservation of his environment from progressive deterioration.

The doctor/population ratio is generally considered a fairly reliable indicator of the manpower situation in the whole health field. The following figures give an idea of the difficult situation confronting

the emergent nations. While in the developed countries there is one physician to between 500 and 1500 persons, the ratio in, for example, Africa south of the Sahara and excluding the Republic of South Africa is on an average less than one to 50,000.

There is no short cut to the solution of this fundamentally important problem. More medical schools are needed and WHO is mobilizing its resources to help increase them, particularly in Africa where the situation is most critical. The type of undergraduate and postgraduate training usually given to the nationals of emergent nations must also be changed. Physicians and other health workers cannot continue to be educated according to patterns alien to the conditions in their own countries or to the needs of the society which they are to serve. To speak bluntly, you cannot expect a doctor, who has gained a high degree of efficiency in a very sophisticated medical environment, to return to his own country and, with the modest means available to him there, to contend successfully with local health problems. His education needs to be geared to local requirements; but this will not come about until there is at least a cadre of nationals aware of the real needs of their country and able to teach with modern methods.

An interesting development which the Organization is vigorously promoting is the inter-professional approach to medical education in schools of the health sciences, where doctors, dentists, pharmacists, nurses, and other categories of health workers are trained together up to their required levels of competence. It is also encouraging the better use of the individual physician by enabling him to discharge some of his duties through other members of the health team.

The year 1970 has been proclaimed International Education Year. This provides WHO with an excellent opportunity for re-emphasizing the educational component of its programme, on which, as I have indicated, depends the adequate provision of health care—preventive, curative, and restorative. The prevention of malnutrition in general and of protein-calorie malnutrition in particular also depends on adequately trained personnel. Protein-calorie malnutrition, by striking at millions of infants and young children in Asia, Africa, and Latin America especially and leading to such physically and mentally debilitating diseases as kwashiorkor and nutritional marasmus, poses a formidable challenge to modern man, and it is encouraging to all concerned that the Council has again included this question in its agenda. In addition to assisting extensive educational work and providing support to research institutes, WHO, in co-operation with FAO and UNICEF, has been continuing the search for low-cost protein-rich weaning foods such as Incaparina and Superamine, developed respectively in Guatemala (at the Institute of Nutrition of Central America and Panama) and in Algeria.

Protein-calorie malnutrition is a complex issue which cuts across many WHO activities, such as epidemiology, maternal and child care, the promotion of community health, the improvement of the environment, the control of communicable diseases in childhood, and family planning problems. The ultimate raising of nutritional standards, an essential factor in the improvement of health conditions throughout the world, extends further than WHO's mandate in that it depends upon the availability of food supplies in quantity and quality, socio-economic and technological development (which determines the standard of living and purchasing power of the people), the level of education, and relative freedom from cultural restrictions regarding food.

The advances in science and technology must be fully utilized if the economic and social conditions of the world, particularly the underprivileged world, are to be improved. But, in making use of these advances, we must bear in mind that, if unwatched or applied by the unwary, they present a very real threat to the life-sustaining properties of our environment. It may sound paradoxical, but to reduce this risk we need, I believe, to place not less but more emphasis on science and technology, since they alone can provide us with the means both for the evaluation and the eventual anticipation of secondary and tertiary consequences of technological change.

We should also remember that technology and science related problems—and the consequences of many technological applications—know no geographical or political boundaries. Furthermore, those problems cannot be solved in isolation; the very nature of the ecological chain demands that the consequences of technological applications be studied on a multidisciplinary level. It is because the United Nations

Conference on the Human Environment to be held in Stockholm in 1972 is being planned on a multi-national and multi-professional basis that we may hope that it will enable us to deal with two of the most crucial issues of our time—man's adaptations to this new world of his own making and the preservation of his environment from progressive deterioration.

WHO is attempting to answer various types of questions in preparation for the Stockholm Conference. For instance, we want to find out whether and in what ways urbanization and industrialization affect human health. We want to know when and under what conditions smog, a characteristic feature of industrialization, causes respiratory disorders or other health hazards. We have to pinpoint more precisely the suspected harmful effects of those insecticides so essential to the control or eradication of malaria.

In order to collect precise data on these and similar questions, we are considering, at the request of the Twenty-third World Health Assembly, the feasibility of developing an effective international detection and warning system designed to study at the level of the city, country, and even continent the harmful factors which modify our total environment. Such a system may be considered as the application of epidemiology to ecology, which through a structural and quantitative analysis of all essential factors of the environment—physical, chemical, biological, and physiological—will identify the health indicators that can serve as alarm signals. The information gained from such a system could help decision-makers everywhere to improve health planning and to adopt an enlightened attitude towards ecological crises by avoiding two extremes—the detrimental consequences to man's health resulting from uncontrolled technology, and the economic and social losses any unreasonable reaction to technological innovation is bound to entail.

In conclusion, I should like to stress that WHO is ready to support with all the means at its disposal the objectives of the Second Development Decade. The close interdependence of health and other aspects of the development process is a fundamental principle underlying our work. We know that many health problems cannot be resolved in isolation and require parallel advances in other social and economic sectors —for example, education, science, technology, agriculture, and industry. Similarly, any activity associated with the overall development of a particular country—be it urbanization, housing, the building of roads and construction of waterworks, an increase in industrial output, or the modernization of agriculture—has a strong health component. Indeed, it is man who creates wealth. His good health is, therefore, essential to the successful completion of the challenging tasks to which the members of the United Nations system are re-dedicating themselves in the seventies.

(*Statement made on 9 July*, 1970 *by Dr M. G. Candau, Director General of the World Health Organization in presenting his Report on the Work of WHO in* 1969 *to the Economic and Social Council at its forty-ninth session held in Geneva.*)

Courtesy : WHO Chronicle, January, 1971.

CODE OF MEDICAL ETHICS

The Code of Medical Ethics as approved by the Central Government under Section 33(m) of the Indian Medical Council Act, 1956 provides that each applicant at the time of registration shall be given a copy of the Declaration by the Registrar concerned and shall read and agree to abide by the same.

The Code of Ethics relates to: (1) character of the physician, (2) the physician's responsibility, (3) payment of professional services, (4) patent and copyrights, (5) dispensing of drugs and appliances, (6) rebate and commission, (7) secret remedies, (8) evasion of legal restriction under the Code. The duties of the physicians pertain to their patients, their profession, and professional services of physicians to each other. Another point covered by the Code is the mutual cooperation and consultation among the physicians themselves for the benefit of the patients.

The Code entails upon the physicians, the responsibility of providing advice concerning health of the community and enlightening the public concerning quarantine regulations and measures for the prevention of epidemics and communicable diseases.

The sterilized persons generally become opinion leaders of the community. They are usually approached by the potential acceptors of sterilization for advice and guidance.

STERILIZATION THROUGH STERILIZED PERSONS

SUDHA D. TOLIA

STERILIZATION, as a method of family planning, is becoming popular increasingly. Many people accept sterilization because it is a sure, reliable and fool-proof method. Fear of undesired pregnancies is removed which indirectly promotes mental health and prevents many problems as many a time the relations between husband and wife is affected adversely due to unwanted children.

Decision Making

The decision making process for undergoing sterilization is a very important stage in family planning. Before making the final decision, the number of doubts, questions and fears arise in one's mind. Such apprehensions should be dealt with in a congenial atmosphere.

Prior to coming on the operation table for sterilization, the individual becomes an interesting case for a social scientist, because he has to study how the various determinants (including social and psychological) motivate a person into action. People under the homogenous conditions are likely to show more or less the same pattern of behaviour, because of the prevailing norms, traditions, culture and customs.

Community-oriented Society

In India, majority of the people who are either illiterate or have low literacy level, living in rural areas, form a community-oriented society. Thus an individual's way of life and behaviour is directly influenced and controlled by the accepted and expected norms of the group. In majority of the communities, public opinion is created through their leaders. Anything that comes from the leaders is easily accepted. For the organizational structure of the community, leaders play a very important role. Their relationship with other members of the group is quite intimate and direct. They take interest in others and exercise a powerful influence over the members of the community without being objected to. Their approval and disapproval is supposed to be final and is followed by others without any hesitation. In a rural community, due to constant interaction, people communicate their feelings and thoughts without any inhibition. Everybody is aware as to what all are doing in the community.

The sterilized persons of the community generally become opinion leaders. They are usually approached by the potential acceptors of sterilization for advice. The favourable or unfavourable opinion of these leaders directly influences others. By virtue of their having accepted sterilization method, these persons play an important role in motivating others for sterilization. Hence sterilized cases should be tackled promptly to get greater response from the people. They should be treated with utmost care after understanding their problems and giving them

satisfactory answers. They should be encouraged to speak out their feelings, doubts, grievances, misconceptions, fears and apprehensions. The motivations of the already sterilized cases should be studied carefully because they influence the potential cases of sterilization. Needy cases should be followed up. After-care is time consuming, but it pays handsome dividends in the long run to get more volunteers for sterilizaion.

It is a well-known fact that a dissatisfied person will express his grievances and discontentment all the time which would draw the attention of others more easily, especially of those who are at the stage of opinion formation and decision making. Many a time, prospective acceptors approach and consult the sterilized people with some pre-conceived ideas before undergoing sterilization. The popularization of sterilization method can be compared to some extent, with marketing and market research principles in business administration. The monetary incentive—reward which is attached to sterilization—for the cases as well as for the staff and promoters are sales promotion scheme and commission for selling the product. Usually, the prospective buyers before purchasing the product, approach the users and find out the utility and benefits and then decide. The attitudes and opinions of the users of a particular product directly influence the potential buyers and determine their behaviour.

The results could be encouraging if it is ensured that the sterilized cases have favourable and positive attitude towards sterilization as they are the key persons in the decision making process, mainly among illiterate and less educated with low socio-economic background. They mainly depend upon verbal communications of opinion leaders rather than on audio-visual aids or printed literature from outsiders. Administrative personnel should function in such a way that the sterilized cases are followed-up to prevent adverse propaganda about the programme. It is being experienced that in many cases, even after taking decision the prospective cases change their minds. It is also a common experience that many people postpone or cancel the idea of undergoing sterilization after coming in contact with the acceptors who create fears and wrong ideas associated with the operation.

The results could be encouraging if it is ensured that the sterilized cases have favourable and positive attitude towards sterilization, as they are the key persons in the decision making process.

Misconception about Sterilization

The psychological aspect of the sterilization needs to be looked into as the operation brings cessation of reproduction which affects an individual unconsciously by losing an organic capacity to reproduce. Secondly, surgery involved in sterilization also causes some fears and apprehensions among the majority of the people. Sometimes, due to lack of proper knowledge, they presume many things. The statistics show that majority of cases adopt sterilization after the age of 35 and by that time usually they have more than four children. It is quite common to hear from some female cases that after tubectomy, they get constant backache, get tired easily and feel very weak. These symptoms may be due to many other factors. Many a time during menopause, women do get such complaints.

Similarly, men, associate impotency and loss of masculinity with the sterilization operation which affects the normal and satisfactory conjugal relationship. Their second important argument about the after-effects is that they would not be able to do hard work—lifting or carrying weight, etc. This would affect their work life, and ultimately the income.

Various inhibiting factors against sterilization should be wisely tackled and positive factors involved in motivation for sterilization strengthened in order to get ecnouraging results.

The sterilized cases should be followed up and they should be encouraged to verbalize their feelings freely. Their doubts, apprehensions and notions should be tackled tactfully because these are the people who could be the ideal motivators. □

There has been much debate and discussion around the question of how best to train the doctor..... But whatever the scheme of training, it is essential to realize that a doctor cannot isolate himself from the society he serves. He has to identify himself almost completely with it if he has to achieve success in solving problems of community health.

DOCTORS AND THE COMMUNITY HEALTH

G. S. PATHAK

THERE are at present inequalities of opportunities in the sphere of public health. And it is extremely important for us to see that the provision of health care should not only be more widely, but also more equitably, available to our people. It would be denial of social justice if certain classes of people do not get basic medical care because they are unable by reason of their poverty to pay. It would again be denial of social justice if doctors and other health personnel concentrate in urban areas and their assistance is not available to those living in rural areas. The imbalance in medical facilities has created a problem which calls for urgent attention.

Health Standards Go Up

A great deal has been done since India became free. It is common knowledge that the average life span of an Indian is 52 years today as against 32 years about 15 years ago. Extensive public health measures have brought down the death rate from 27 to 17 per thousand. The number of hospital beds has risen; the number of registered doctors and registered nurses have gone up and the number of medical colleges has increased more than three fold. Pre-and post-natal services have reached remote areas of the country, and infant mortality rate has dropped. In short the picture presented after two decades of freedom is in many ways a refreshing contrast to the pre-Independence period, so far as public health standards and services are concerned.

In this country we have accepted the idea of a comprehensive health service for the entire population as a basic social right of the individual; which means that we have to provide not only curative care for our patients but also ensure adequate preventive as well as promotive health services to the entire population. The objective of health services naturally is to meet that obligation. The aim of medical education is to provide training for the various types of personnel required to meet this great responsibility which the country has undertaken. There has been much debate and discussion around the question of how best to train the doctor in order to help him to meet the needs of the community he seeks to serve. We have been endeavouring to find out the gaps that exist in our schemes of training. But whatever the scheme of training, it is essential to realize that a doctor cannot isolate himself from the society he has to serve. He has to identify himself almost completely with it if he has to achieve success in solving its problems of health.

Medical Education to Serve the People

Medical education cannot be deemed to have achieved its purpose unless it is geared to suit the country's needs. This requirement is specially relevant in a country like India where most of the diseases are due to poverty and ignorance and almost 80 per cent of the diseases are preventable. In the past two decades, phenomenal success has no doubt been achieved in this country in controlling the virulence of major communicable diseases through specialized mass campaigns and other means. Yet we have many health problems which remain to be tackled relating mainly to lack of hygienic environment, lack of resistance which is primarily due to lack of adequate diet and poor nutrition and lack of proper housing and safe water supply. Our attempts in the past to bring down mortality and morbidity through provision of basic health services throughout the country brought in their wake another major health problem, namely, the 'Population Explosion'. This problem poses the greatest threat to us in thiscoutnry, and if unchecked, the crushing weight of population can wholly undermine the progress that has been achieved through various developmental activities. The magnitude of the problem of population demands from young doctors, dedicated and urgent endeavours to promote family planning on the widest possible scale.

A great need exists for general medical training on a wider scale in addition to specialization. There is a popular feeling, that at present, sometimes, even ordinary medical check-up and treatment of a routine nature involves the public in the costly and time-consuming process of making the rounds to several specialists. Specialists are no doubt essential in view of the requirements of special cases. We should have specialists in all important branches of the science who can maintain the highest standards and achieve the highest skills in their special fields so that they may be equal in knowledge and skill to their counterparts in the more advanced countries. But by and large, the health problems of the large masses of our people are such as to need a doctor who has a broad-based general medical knowledge and who can readily handle ordinary ailments of a general kind. At any rate we need more of these 'basic' doctors in rural areas. It is an unfortunate fact that though eighty per cent of our population lives in villages, there appears to be generally speaking, considerable reluctance on the part of medical men to go and work in the villages. It is doubtful whether in rural areas, we have even one doctor for every 20,000 rural population. It seems only fair that the knowledge and skill imparted to the doctor by this college should be available to our villagers also and help to make their lives happy and healthy. "A doctor has his reasons for prefering to work in urban areas which also need his services. This is a matter

The future medical practitioners have to devise and evolve new methods and approaches whereby the science of medicine can be practised within the prevailing conditions of the community.

which requires the thought and attention of all persons connected with medical training and the placement of medical men. Perhaps adequate incentives and suitable conditions will stimulate a flow of doctors towards remote rural areas".

The All India Institute of Medical Sciences has been making purposeful experiments in medical education with a view to evolve a pattern which would produce the type of doctors, the country needs. It is heartening that in this Institution, no efforts are spared to create a spirit of social consciousness in the mind of young doctors, through experiments in community health. The Institute's Community Health Project at Ballabhgarh is a means to this end and should be able to set an example to the rest of the country. This is a training which should help to develop in the medical student the right attitudes and behaviour for community service and develop in him a high degree of professional competence, in tackling health problems within the available resources.

Revolutionary Changes in Medical Sciences

We are passing through a period that can be termed as a veritable revolution in biology. In the past decade, answers have been found to a number of complex phenomena. It is no little achievement that within the past few years, human effort and ingenuity has unravelled the nature of the chemical substance in which the hereditary traits are inscribed. We have discovered the composition and structure of the genetic material. The elucidation of the chemical composition and structure of bio-molecules has led to the next logical step, namely the evolving of methods for the laboratory synthesis of genes and hormones. These advances are heralding in a new era in which man may well attain mastery of the ultimate secret of life. Similarly rapid advances in the understanding of the defence mechanisms of the body against bacteria and viruses are likely to lead to new approaches towards the treatment and prevention of several dreaded diseases like leprosy and cancer. The expanding horizons of medicine and biology are well-known.

Dr Albert Schweitzer's deep concern for the welfare of the human community on earth and his sense of mission and service to suffering humanity took him to the remote village of Lamberene in French Equatorial Africa where he worked amidst the most challenging hardships, tending and succouring the sick and the suffering to the end of his days. I am confident that we, in our country, are not lacking in young doctors with a similar spirit of adventure and service who may dedicate themselves to the welfare of our rural population. —*G.S. Pathak*

The younger generation should be sensitive to the current developments in the science and become active participants in the acquisition of new knowledge for welfare of mankind.

Plea for A New Approach

The future medical practitioners have to devise and evolve new methods and approaches whereby the science of medicine can be practised within the context of the conditions of the country. Modern medicine is expensive, as it relies heavily on expensive investigative procedures. Can we devise simpler tests that can be practised on a large scale and at the cost which is in consonance with the purchasing power of the bulk of our population? The same kind of enquiry is relevant to the cost of treatment also. While the Government are trying to make available drugs at reduced costs, the physician as the counsellor for medication has an equally important role in evolving suitable combinations of effective agents that are indigenous in origin and comparatively inexpensive and within easy reach of the poor man. This question of expense is very vital to our people and deserves closest attention and study.

(*Based on the Convocation Address delivered at the All India Institute of Medical Sciences on 3 February 1971.*)

HIND KUSHT NIVARAN SANGH MEET

BRIGHTER OUTLOOK FOR LEPROSY CONTROL

"ILLNESS is intimately related to poverty, illiteracy, ignorance, out-moded beliefs as in 'fate', and above all it is conditioned by the cruel disparities and unfeeling injustices of our social structure. This relationship of the maladies of social structure to an individual's disease is most in evidence in the case of leprosy", said President V.V. Giri at the Annual General Meeting of the Hind Kusht Nivaran Sangh held at New Delhi on 16 April, 1971.

The President said that "the voluntary agencies can play a big part in the health education of the public. Nation-wide agencies such as the Hind Kusht Nivaran Sangh are best fitted to carry on a continuing and effective programme of education".

"Voluntary Agencies play a large part in the leprosy work of the country, and that there is close co-operation and collaboration between Government and Voluntary Agencies. Private agencies should supplement and provide the services that public agencies cannot give. They have also the important obligation of searching out the unmet needs and the unsolved problems, and of developing experimental programmes to meet their challenges. They should preserve and promote the human factor which is too often lost sight of in administrative practice", the President said.

Dr J.B. Shrivastav, Director General of Health Services and Chairman of the Governing Body of the Sangh said, "the outlook for leprosy control is brighter today than ever. In the past three decades, and especially in the last decade, there have been striking advances in our knowledge and understanding of leprosy. Great strides—medical, surgical and social—have been made in the treatment of leprosy and leprosy patients. Drugs are rendering bacteriologically negative a large number of patients and many of them recover without any scarring. As a result of this new hope greater numbers are coming forward for treatment at the numerous out-patient centres that have been opened in the country with a view to detect cases early and provide them treatment as near to their homes as possible."

New Outlook

"The new hope has brought a new outlook amongst the public, and though prejudice is slow to die, it is on its way out. It is certainly less sharp and less widespread than before. The burden of deformity is also lessening with the advances in physiotherapy, surgical correction of deformities and programmes of occupational therapy and vocational training. While social acceptance can still present to many individual patients a serious problem, the conditions favourable for social acceptance are in evidence, especially where the patient's physical cure and mental resilience have helped him to earn a living and keep his place in society without fear of ostracism. It is also a matter for deep encouragement to know that there are an increasing number of medical scientists, doctors, surgeons, nurses, social workers, etc., who are making determined efforts to break the artificial barriers between leprosy and other branches of medicine and between the leprosy patient and society. Leprosy is attracting an increasing number of workers from various disciplines and this gives us the greatest assurance that research and control programmes can be accelerated and that the vicious circle that impedes the integration of leprosy work with general medical work can be broken, given the right planning and determination."

Referring to the leprosy work done in India, Dr Shrivastav said, "the National Leprosy Control Programme has completed 16 years of work in the country. This programme which was centrally aided has become centrally sponsored from

(*Continued on page 204*)

PUBLIC HEALTH ENGINEERING: PRIORITIES AND PERSPECTIVES

THE Central Public Health Engineering Research Institute (CPHERI) organized a Conference on Public Health Engineering Research and Development work at Nagpur from 28 to 30 January, 1971. It was for the first time that such a Conference had been organized in the country.

About 85 invitees from various disciplines of the profession such as medicine, agriculture, fisheries, atomic energy, and public health engineering attended the Conference.

The objective of the Conference was: (*i*) to provide an opportunity to engineers, scientists, administrators, teachers and others to discuss and identify the research and development needs, (*ii*) to recommend priorities and perspectives for the Seventies, and (*iii*) to recommend ways and means for promoting and co-ordinating the research and development efforts in the country in the field of public health engineering with special reference to water supply, sewage and industrial waste disposal, rural sanitation and allied subjects.

Dr Atma Ram, Director-General, Council of Scientific and Industrial Research (CSIR), New Delhi inaugurating the Conference called upon the scientists to devote their energies to find out solutions to the problems of environmental pollution. The problems of public health, he said, should be given top most priority. He assured that all the programmes related to public health including those of CPHERI would receive full support from the CSIR. Dr Atma Ram said that while planning for a clean and healthy environment for the city people, 75 per cent of the people living in villages should not be forgotten. Bad sanitation was a national disgrace and the problem should be treated as a national challenge. He called for the need of international cooperation to help ensure supply of safe water to every human being. Pollution was not a problem of any single country and the world as a whole should seek a solution to the problem, he said.

Prof. S.J. Arceivala, Director, CPHERI, welcoming the delegates, said that in order to have meaningful and coherent programme of research and development work, which would have a favourable impact on all concerned, it was necessary to concentrate on the limited resources available. The basis for determining priorities and identifying the research and development needs of this decade was essential, Prof. Arceivala said.

Speaking on "Some Field Problems", Dr T.R. Bhaskaran, Technical Adviser Geo-Miller, & Co., New Delhi, said that the field of public health engineering research and development was rapidly changing and, therefore, required concerted efforts. Dr Bhaskaran also touched upon the problems relating to the rural set-up of the country and felt that it was very much neglected. He, therefore, urged that the rural sanitation work should receive top priority. Prof. N. Majumder, Professor of Sanitary Engineering, All India Institute of Hygiene and Public Health (AIIH&PH), Calcutta, while speaking on *Problems in Transfer of Technology from the Laboratory to the Field*, pointed out that the coordination was very essential between the research workers and the field practitioners and for this purpose adequate publicity of the research work in the laboratories was necessary. Dissemination of knowledge was needed to be geared up so that professional engineers develop faith in the research work done in laboratories. This would "bridge" the gap existing in transfer of technology to the field, he said.

Mr Z.J. Buzo, Regional Adviser in Environmental Health of the WHO, assured that the World Health Organization was interested in the public health engineering work which was being carried out in India especially because the research work here had direct application to other developing countries where similar conditions prevailed. He said the WHO was watching the work here with great appreciation with a view to disseminating the information

to other parts of the world. Mr Buzo, pointed out that personal contact was some thing in which we were lacking now for transfer of technology to the field. In Geneva, he said, "after the solutions to problems are worked out, somebody goes into the community and discusses the problem to find out the possibility of this transfer at personal level".

Some of the highlights of the observations made by the different panels of the Conference were:

Water Treatment

Greater efforts should be made in the development of new coagulant aids and in 2-layer and multi-layer filtration techniques to enable a greater through-put from existing plants.

Distribution and Drainage

The need for a many-faceted approach to the problem of leakage detection and water distribution net-work design, including its necessary instrumentation and the need for more work on toxicity potential of plastic pipes and their evaluation in out-door usage were emphasized.

Microbiology

Greater attention was needed on treatment microbiology, whereas attention so far had been concentrated more on water quality aspects. The need for a short course and sanitary microbiology was also expressed.

Sewage Treatment and Water Pollution Control

The need for continuing efforts in the development of low-cost waste treatment methods such as oxidation ponds, aerated lagoons as also sewage irrigation and fish culture was emphasized. It was felt that the time had come for setting up greater facilities in river monitoring and collaboration with Regional Planning Bodies and water pollution control Boards, in the assessment of water resources, prediction of water quality changes, development of water quality criteria and the application of economic and systems analysis techniques to the management of water quality in general.

Industrial Wastes Treatment

It was felt that priority in industrial waste treatment should be based on the pollution load contributed by the industry, its importance from the point of view to export promotion and defence needs. The panel also felt that while attention had so far been concentrated more on the biological degradation of wastes, the approach should now include other solutions also such as deep well injection, ground water re-charge, submerged combustion, reverse osmosis.

Rural Sanitation

Rural sanitation problems are indeed very challenging in a country like India. The need for development of improved hand-pumps, suitable tubewell strainers, sturdy taps for use on public standposts, etc., was an urgent necessity. The water quality studies in piped water schemes were also considered necessary.

Extension Services

Some additional topics in which training courses could be run at the CPHERI and also some topics on which new publications could be brought out were recommended. Need for publications in regional languages for auxiliary technical staff was also suggested. It was also felt that mobile teams would be very useful for going to the field and demonstrate new products and processes developed by the Institute. They would also enable feedback of consumer reaction. □

FRONTIERS OF MEDICINE (*Contd. from page 189*)

exposure and nuclear accidents. Although it is expected that judicious control will be exercised to prevent radiation illnesses, a combined effort of medical and allied scientists will be needed to protect the workers and to treat them.

Though our country is committed to peaceful use of nuclear science, the proper understanding of biomedical problems that arise from radiation and radio-active fall out cannot be ignored.

We made a modest beginning for the future, 18 years ago and today we feel gratified that we have an Institute of Nuclear Medicine, Institute of Physiology and Allied Sciences, the Food Research Laboratory, the Institute of Aviation Medicine, Laboratory for Underwater Medicine and Electronics in Medicine.

With the progress of medicine and its rightful emphasis on accurate scientific knowledge and the reduction of empiricism, we must not allow the neglect of the patient, his personality and his happiness. Nor, should the growth of scientific medicine be allowed to overshadow the competence and skills of clinical methods which have been acquired by diligent observation and experience. Both, clinical acumen and scientific knowledge, must remain balanced in the medicine of tomorrow. There will of course be differences in methods, made possible by technological discoveries and the use of computers which will give readily accurate and immediate analysis of accumulated facts. But one cannot foresee, however, a role for the computer which will reduce the importance of clinical knowledge, of clinical examination and of personal contact between the patient and the doctor.

New frontiers of medicine are exciting and awe inspiring. We have to meet the challenge of scientific progress with spiritual and moral advancement ; otherwise there is a great danger to mankind. Tennyson forewarned us by his immortal lines :

Let knowledge grow from more to more,
But more of reverance in us dwell;
That mind and soul, according well,
May make one music as before.

(*Based on the 'Guest Lecture' delivered by Lt.-Gen. S.N. Chatterjee at the Second Annual General Meeting of the Society of Nuclear Medicine, India in New Delhi on 22 October, 1970*).

BRIGHTER OUTLOOK FOR LEPROSY CONTROL (*Contd. from page 201*)

1969-70. Upto the end of 1969, 184 Leprosy Control Units, 1161 Survey, Education and Treatment Centres and 37 Control Units by Voluntary Organizations receiving grant-in-aid from the Government of India, have been established in the country. Out of 300 million people living in endemic areas, 79.1 million have been covered; 41.3 million people have been physically examined and some eight lakhs and 40 thousand cases have been recorded, while some seven lakhs and 64 thousand cases have been registered for treatment. The training of medical and para-medical personnel has received an adequate attention of the Government, and some voluntary organizations have also undertaken the training of physicians and surgeons, paramedical workers and physiotherapy technicians. Efforts are being made to ensure a quicker and wider coverage of the endemic population so that at no distant date all patients may receive treatment and the reservoir of infection may diminish and be dried up eventually". □

MEASURES AGAINST CHOLERA IN EAST BENGAL REFUGEE CAMPS

STEPS have been taken by the Ministry of Health and Family Planning to check the incidence of cholera among the East Bengal refugee camps. Even earlier when the first reports of some cholera cases were received by the Health Ministry, measures were taken to analyze the causes of the disease and to build up stocks of cholera vaccine and normal saline (which is injected intravenously and given to cholera cases to prevent dehydration). Extra services of doctors and para-medical personnel were provided. Teams of the Ministry officials, one of which was headed by the Union Minister of State for Health and Family Planning, Prof. D. P. Chattopadhyaya, went to the refugee camps and recommended that an epidemiologist from the All-India Institute of Hygiene, Calcutta should assess the situation in some of the camps.

At the time of reporting on 5 June, 1971, 10,800 more bottles of normal saline have been delivered and on every alternate day a consignment of 10,000 bottles were air-lifted to the Calcutta Depot since 29 May, 1971. Another 2,800 bottles of molar lactate have been flown to Calcutta from the Haffkine Institute, Bombay and also from Delhi and an order for 10,000 bottles has been placed with a firm in Madras. A total of 20,000 bottles of molar lactate was expected to be supplied to Calcutta.

Orders for the supply of two lakh doses of anti-cholera vaccine have been placed in Lucknow and Patna and with the Haffkine Institute, Bombay. One and a half lakh doses are being air-lifted to Calcutta from Madras. Fifty-eight lakh doses of cholera vaccine have already reached Calcutta Medical Store and most of these have been distributed. About four lakh doses were in transit.

There was no shortage of disinfectants in Calcutta and Gauhati as adequate stocks of bleaching powder have been built up there.

There is an acute shortage of normal saline in the country although all possible resources have been mobilized. The Ministry cannot send untested samples of normal saline which can cause rigour.

Hospital Facilities

As for the hospital facilities, 1,713 additional beds had been sanctioned for hospitals in West Bengal. A fully-equipped 400-bed mobile hospital, financed, maintained and operated by the Rajasthan Government was in position in Islampur, North Bengal. Another four mobile hospitals had been sanctioned for West Bengal. A survey of the northern districts of West Bengal was being made by M/s Hindustan Steel for locating another 50-bed hospital. There were enough doctors and para-medical personnel according to the Director of Health Services, West Bengal. The State Governments of West Bengal, Assam, Meghalaya and Tripura have been authorized by the Ministry to recruit doctors on daily wages from amongst East Bengal refugees—fairly large number (nearly 500) were available. An MBBS doctor would be given Rs 20 a day while a licentiate would get Rs 15. A large number of such doctors were working to fight the disease. Doctors of the Army Medical Corps are also working with the civil administration to combat cholera. Fifty such doctors were in Nadia district alone which was one of the worst affected areas.

The Ministry was concentrating on the need to supply tents, skimmed milk powder and vehicles on a top priority basis to make the health services fully effective. Pure drinking water is supplied by

trucks, lorries and trailers which are being secured from the States of Bengal, Bihar, Orissa and Uttar Pradesh and Defence Services. More tubewells are also being sunk—10 tubewells had been sunk in the Goalpara District of Assam, a drilling rig had been diverted from Gaya to Goalpara District for further drilling. In addition, a large quantity of Hallogen tablets had been issued to persons crossing into India. They purify water taken from untested sources and make it fit to drink.

Since the source of viruses was in East Bengal, most of the persons had been infected while in East Bengal which experienced a cholera epidemic. Some of them have died before crossing the border and others after being admitted to the hospitals.

Vaccination

Many refugees crossing the border were half dead. The State Governments have been cautioned to take proper precautions against the disease from spreading when the refugees move to these States. Further, the Government had launched a campaign to inoculate all people living within a five mile radius of every refugee camp where cholera has broken out to ensure that the epidemic does not spread.

The inmates of the refugee camps were also being inoculated against smallpox as a precautionary measure.

The variety of the disease in the camps was classical cholera as distinct from the El Tor variety prevalent in India. Classical cholera had been endemic in East Bengal. It was eradicated from India during the 1950s and early 1960s. Both types of cholera are amenable to treatment and if detected and treated early enough, not a single patient need to die.

Of the supplies to the cholera affected region, India's own contribution so far accounted to 99.9 per cent. India has requested to WHO for normal saline, molar lactate, jet injections and syringes.

India's requirements predominantly are material —and not experts—in the shape of camps for housing cholera cases, dehydration fluid, antibiotic vaccine, transport in addition to providing adequate water supply and sanitary arrangements. India requires no experts from outside for this purpose. Indian doctors are perfectly well-versed and competent to deal with the situation.

NEED FOR V. D. CONTROL

IGNORANCE and poverty were the twin causes of prostitution. Women would be able to resist exploitation when education spreads and their status is raised. But in the final analysis the root cause of prostitution was the absence of a happy family life, said Shri K.K. Shah, the then Union Minister of Health, Family Planning, Works, Housing and Urban Development. Shri Shah was inaugurating the 13th All India Conference of the Association for Moral and Social Hygiene in India at Jaipur on 13 November, 1970. He said that this problem in fact was a symptom of social maladjustment. It was a social disease which ought to be cured socially. The problem could only be checked if twin measures of prevention and treatment are introduced. Moral hygiene and social hygiene were correlated concepts, he said.

About 150 delegates from the States and District Branches of the Association, Central and State Governments, Social Welfare Advisory Boards, Voluntary Organizations, and Schools of Social Work attended the Conference.

Smt. Shakuntla Lall, Secretary-General of the Association said that today 30—40 per cent of V.D. infection was from clandestine women. One disquieting feature was that 16 per cent of the clientele visiting the V.D. clinics were teenagers.

Smt. Mohinder Kaur, President of the Association stressed the need to have more rehabilitation centres for promoting the welfare of the women in immoral traffic and moral danger. Simultaneously it was necessary to bring in a change in the attitude of the society towards these women, she said.

Social Diseases

Shri B.N. Joshi, Minister of State for Social Welfare, in his Presidential Address said that the primary causes of the vice in the present day society were considered to be industrialization and urbanization and the resultant over-crowding, loneliness and the break down of joint family system.

Stressing the importance of preventive programmes, he said, that if people were helped to build up sound family relationship, and happy families, many of the social diseases like prostitution could be cured.

Dr (Smt.) Jyotsna Shah, Director, Central Bureau of Correctional Services, Govt. of India introducing the theme of the Conference 'Phenomena of Prostitution in India', said that in order to check the spread of prostitution, preventive measures like building social and ethical values, vigilance against fresh recruitment for prostitution, sex education, venereal diseases control programmes, etc., were to be undertaken.

Speaking on 'Venereal Diseases Control' Dr S.R. Sadana, Professor, Department of Dermatology and Venereology, Amritsar Medical College, said that unlike the other communicable diseases, venereal diseases flourished under conditions of poverty and affluence. He attributed the magnitude of the problem to the influence of westernization, increased tempo of industrialization and the resultant changes in the behaviour patterns and attitudes of the people.

Though the official figure of venereal infection showed as three per cent of the entire population, the infection should be much more, as most of the patients got themselves treated from private medical practitioners which was not included in the official statistics. Hesitation to take treatment from the properly established clinics was the result of the stigma attached to the disease.

According to Dr Sadana, the highest incidence of venereal diseases was at industrial towns, seaports, hilly tracks, pilgrim centres, etc. He drew the attention of the Conference to the alarming increase in the teenage infection which was stated to be 12 to 14 per cent.

He observed that penicillin has altered the pattern and form of venereal diseases, specially syphilis. But he warned that sub-curative dose enabled the patient only to suppress the manifestations of the diseases.

The reported decline in the incidence of venereal infection was only apparent and not real. He regretted that the disease was spreading in the society due to indiscrete, injudicious and inadequate treatment. He advocated adequate, educational and treatment facilities for curbing the spread of these diseases.

Dr D.N. Mulay, Adivser in Venereal Diseases to the Government of India showed concern over the inadequate statistics on the incidence and prevalence of venereal diseases in the country which had affected the control programme adversely. Dr Mulay could not be present at the Conference and his paper was read by Dr W. Mathur.

One of the reasons for the failure in controlling the disease was the social stigma attached to it which made people to keep the disease as a guarded secret, he said.

Though the existence of a number of venereal diseases was recognized, syphilis and gonorrhoea were the two main problems in terms of quantum and morbidity. Recent blood examination of groups of the population has placed the incidence at 5 per cent to 7 per cent.

Dr Mulay gave an account of the facilities so far introduced in the country like Seriological Laboratory at Madras and WHO Demonstration Centre at Simla, Antigen Productive Unit at Calcutta, etc., which have gone a long way in controlling this social menace.

He observed that control measures against venereal diseases were different from those of other communicable diseases as it was a chronic disease with a long period of latency.

Dr Mulay stated that in view of the national importance of the problem, V.D. control programme had been included in the Fourth Five Year Plan as a Centrally sponsored scheme with 100 per cent assistance. One of the striking features of this programme was that it gave stress on the preventive and curative aspects like a net-work of V.D. clinics, expansion of case finding measures and other epidemiological activities, training facilities and health education programmes, routine ante-natal blood testing, etc.

Commenting on the subject, Dr W. Mathur, Vice-President of the Association said that the professional prostitutes were not solely responsible for the spread of venereal infection today. An analysis of 43,549 cases received in the V.D. clinics run by the Association showed that prostitutes caused only 27.6 per cent of infection. Today the women of easy virtue and society girls posed a greater danger to society in spreading the disease as they permeate throughout the fabric of society.

Analysing the source, Dr Mathur said that infection among housewives were mostly from the husbands. This phenomena called for a concentrated effort to raise the standard of character and inter-personal relationship in the family so that maladjustment and the resultant sexual abberations could be minimized.

The Association should collaborate with the family planning clinics with a view to finding out cases of venereal infection and also to emphasize that most of the contraceptive methods did not protect against venereal infection. In this context it would be advisable to conduct a survey regarding the incidence of V.D. among the habitual contraceptive users.

It would promote control programme, if all expectant mothers are given blood test and the positive cases treated. An effective control programme would only be possible with the active collaboration of private medical practitioners, he said.

Shri Mohanlal Sukhadia, Chief Minister, Rajasthan delivered the valedictory address. He observed that lapses of moral and social hygiene had a demoralizing and debasing effect on the entire society and constituted a great hazard to the health and happiness of people. □

Around the states

DELHI

Red Cross—Annual General Meeting

ADDRESSING the Annual General Meeting of the Red Cross Society on 15th April, 1971 in New Delhi, the then Union Health Minister, Shri K.K. Shah said that there had been an unprecedented rise in volunteers for the Red Cross. They had done very good work in the field of family planning, child welfare, and home nursing. Additional funds were urgently needed to introduce schemes for volunteer nurses and disaster relief. A proposal for setting up a Central Referral Blood Bank had also been received. He appealed to the drug manufacturers to assist the Red Cross.

The Red Cross should reach areas inhabited by the weaker sections of society, concluded the Minister.

New Ayurvedic and Homoeopathic Dispensary Opened

AN Ayurvedic and Homoeopathic Dispensary was inaugurated at Najafgarh on 18 April, 1971 by Shri K.K. Shah. The dispensary has been set up under the auspices of the Qabool Singh Durgi Devi Jain Charitable Trust.

Shri Shah said that the Ayurvedic system of treatment was less costly and within the means of the people. The Government of India have adopted as their policy to encourage all systems of medicine including Unani, Ayurvedic and Homoeopathic.

He added that it was not possible for the Government alone to provide medical facilities in the rural areas and the help of voluntary efforts was always welcome. He hoped that more voluntary trusts would be established.

Railway Chief Medical Officers Meet

THE Chief Medical Officers' Conference, Indian Railways, was held at New Delhi on 21 and 22 December 1970. The Senior Medical Officers (FP) of all Zonal Railways also attended the Conference.

Dr J. B. Shrivastav, Director General of Health Services stressed the necessity of integrated health and family planning services. "A solid foundation like the assurance of longevity of children born is necessary for the programme to progress", he said.

Dr (Miss) L. V. Phatak, Commissioner, Family Planning, spoke about the hazards caused like deterioration of mother's health due to repeated childbirths. She emphasized the role of general and specialist medical officers like obstetricians, and other medical and para-medical staff including voluntary agencies in motivating the people for family planning.

Earlier, Dr Benwari Lal, Director, Health, Railway Board in his introductory speech said that the Conference aimed to take stock of the Family Planning situation in the Railways, analyse the causes leading to poor performance in certain localities and consider ways and means to secure a commitment by Railways for the programme.

Shri B. C. Ganguli, Chairman, Railway Board stressed the importance of refresher courses for doctors and also for promotion of preventive aspects of medical services.

Dr S. Krishnaswami Rao, Director, National Institute of Family Planning spoke on latest motivational techniques. Resistance should be removed not only from the beneficiaries but also from providers of services and intermediaries, he said. It is easy to tackle the non-acceptors first and then move on to the resisters, he pointed out.

Dr K. N. Rao, Secretary-General, Population Council of India spoke on the role of voluntary organizations in implementing the Family Planning Programme.

XVII Health Education Instructors and Health Extension Education Officers Course

"EXTENSION Education is a process of changing the mind and action of the people in such a way that they help themselves to attain economic and social improvements. It is a method of working with the people, not for them; of helping people become self-reliant, not dependent on others; of making people the central actors in the drama, not spectators", said Shri A. B. Malik, Joint Secretary, Department of Health and Family Planning in New Delhi on 6 March, 1971.

Shri Malik was awarding certificates to twenty four trainees of the XVIIth Course for Health Education Instructors and Health Extension Education Officers in the Regional Family Planning Training Centres who completed the course held from 18 February, 1971 to 6 March, 1971. There were twenty-four trainees hailing from Rajasthan (4), Uttar Pradesh (5), Bihar (4), West Bengal (6), Haryana (2), and Jammu & Kashmir (3). They had had their initial training in Family Planning methodology at the National Institute of Family Planning but since Extension Education is the basic component in the teaching of Family Planning Workers, this course was designed for extension education only. The major portion of the course was conducted at the Central Health Education Bureau's Rural Field Study and Demonstration Centre at Pataudi where the theory was correlated with the field methodology.

Shri Malik, in his valedictory address said, "the Family Planning has been given the highest priority in the National Plan. The success of this programme depends on the crop of trained workers available to prepare the local workers, for motivating the people to accept the programme."

Shri Malik complimented the Central Health Education Bureau for having given greater emphasis for field work in its training programmes and in preparing the self-trainers. He commended the Bureau's methodology of job-oriented field-based training.

Dr B.S. Sehgal, Director, Central Health Education Bureau in his welcome address said that training progrmame has been specially planned to prepare these officers for planning, implementing and evaluating educational components within the existing organization and resources of the family planning programme at the village and Primary Health Centre level. He hoped that the training imparted would equip the instructors to carry out their teaching jobs more effectively.

Shri A.B. Malik awarding certificate to a trainee.

Dr V.N. Shirodkar Passes Away

Dr V.N. Shirodkar passed away on 7 March, 1971. Dr Shirodkar's contributions in the sphere of gynaecology and obstetrics brought him world fame and earned great credit for India.

A stalwart in the cause of family planning, his work in this sphere was responsible in no small measure in bringing family planning to the notice of the medical profession as a matter of urgency and importance. As an Honorary Medical Director of the Family Planning Association of India for many years, Dr Shirodkar gave his valuable advice and guidance in the medical activities of the Association, both in the field of birth control and in the treatment of infertility and sterility. He also represented the Association at meetings and conferences of the International Planned Parenthood Federation in several countries. A man of great personal charm and human qualities, Dr Shirodkar's memory will be evergreen.

Swasth Hind sends its heartfelt condolences and sympathies to Smt. Shirodkar and the members of his family in their irreparable loss.

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OUR CONTRIBUTORS

Lt.-Gen. S.N. Chatterjee
Director-General
Armed Forces Medical Services
Ministry of Defence
NEW DELHI-11

Miss Sudha D. Tolia
83/12-B, Barandwana
Near Film Institute
POONA-4

Dr M.G. Candau
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