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WOMEN AS PROVIDERS OF HEALTH CARE

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OBJECTIVES

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REPORT and interpret the policies, plans, programmes and achievements of the Union Ministry of Health and Family Welfare.

ACT as a medium of exchange of information on health activities of the Central and State Health Organizations.

FOCUS attention on the major public health problems in India and to report on the latest trends in public health.

KEEP in touch with health and welfare workers and agencies in India and abroad.

REPORT on important seminars, conferences, discussions, etc., on health topics.

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WOMEN AS PROVIDERS OF HEALTH CARE

As a contribution to the aims of the United Nations Decade for Women (1975-85), and within the framework of WHO's activities for women in health and development, a multinational study on women as providers of health care was initiated by the Division of Health Manpower Development with support from the United Nations Fund for Population Activities. The purpose of the study was to stimulate action, particularly by individuals and groups at the country level, aimed at enhancing the status of women who provide health care and making their work less burdensome. The following article highlights the views and recommendations of a consultation convened by the Organization at the policy-formulation stage of the study.

Most health care is provided by women—whether as informal care givers in their capacity as mothers, grandmothers, wives, daughters of the elderly or simply neighbours, or in the formal health sector, in which women constitute the bulk of the labour force. Yet, paradoxically, while societies depend so heavily on women for health care, women's own health needs are frequently neglected, their contributions to health development undervalued, and their working conditions ignored. The growing recognition of the need for universally accessible primary health care and of people's right and duty to participate individually and

collectively in their own care makes it vital to examine critically the role and status of women in its provision.

A question which immediately arises is whether the relatively low status and prestige accorded to primary health care stems from the fact that it is mainly women who provide it. Or, rather, are women the main providers of such care because it is still viewed by too many people, and men particularly, as unprestigious work and therefore to be left largely to women? Whatever the answer may be, the status and prestige of primary health care must be raised and thereby the status and prestige of the workers who provide it, who for the moment are primarily women.

To help address these problems and devise some solutions, WHO convened consultations on women as providers of health care in 1980¹ and 1982.² At the first consultation, priority issues concerning women as health care providers were identified and suggestions made for case-studies and analyses on specific issues. These were to be carried out in 17 countries, developed and developing namely, Brazil, Colombia,

“Teach a mother to be healthy and she will teach the rest of mankind.”

Egypt, Ethiopia, France, Hungary, India, Indonesia, Jamaica, Mali, Nigeria, Pakistan, Philippines, Switzerland, Thailand, USSR, Zimbabwe. The second consultation brought together policy analysts and decision-makers from the countries concerned who examined the findings and proposed concrete activities at the international and particularly the national level.

It became clear, in the course of the second consultation that any comprehensive strategy designed to raise the status of women who provide health care and make their workload less onerous must focus on the following elements: education and training, attitudes about women, health education, policies and opportunities for employment, support systems, and

¹Report of Consultation on Women as Providers of Health Care, Geneva, 17-19 December 1980 (unpublished WHO document, HMD/81.2).

²Report on the Second WHO Consultation on Women as Providers of Health Care, Geneva, 16-20 August 1982 (unpublished WHO document HMD/82.10). Both this and the report of the first consultation are available on request from: Division of Health Manpower Development, World Health Organization, 1211 Geneva 27, Switzerland.

infrastructure development. While these elements are dealt with separately here, it should be borne in mind that the participants in the consultation continually stressed their interdependence.

Education and training of women for health work

Education of women for health work must be seen in the context of the type and length of the general education that they receive. It is a melancholy fact that although the law in many countries provides for equal access of the sexes to education and training, boys are nevertheless given preference over girls for cultural and economic reasons. Girls complete fewer years of schooling and the content of their education is different. Thus, boys pursue academic subjects and vocational training, while girls are directed to “domestic science”. Consequently, although from their earliest years women are trained in subjects concerning household and family care, the amount of education they receive is insufficient to permit them to enter the health labour force at a level equal to that of men. Efforts must be made to eradicate this sex-role stereotyping in the earliest years of child-rearing and school life.

As regards training for health work, women are again at a disadvantage, being found primarily in programmes for the training of nurses or midwives (whether professionals of auxiliaries) and less often in schools of medicine, dentistry, or veterinary medicine. The education and training received by women lead, in the majority of cases, to jobs commanding relatively low income and consequently, in the eyes of society, low prestige. Ways of redressing this inequality include recruiting and training as many men as women for each type of jobs. An alternative strategy is to do away with the gross differences in salaries between the categories in which women predominate and those in which men predominate.

The recruitment of women to training programmes will require special efforts, partly because women in general tend to have a negative self-image (the result of a centuries-old socialization process), partly because of domestic responsibilities, and partly because in many countries the women lack the basic education needed for entering training programmes. Efforts must be made to eliminate discriminatory attitudes and practices by male teachers and students in educational institutions—ostracism, hostility, stereotyping in various ways.

Continuing education as now carried out is directed primarily at doctors and nurses and focuses almost



In the health field women are primarily taking to training of nurses or midwives, whether professional or auxiliaries. Therefore, there is a need for a nucleus of nursing personnel to be formed who could serve as agents for change.

Photo : WHO

exclusively on updating clinical knowledge. There is a serious need to expand both its scope and its beneficiaries. To this end WHO is promoting the establishment of national systems of continuing education. Even within these systems, however, women need special consideration in that, unlike most men, they have to devote a considerable part of their working day to domestic duties. Until the responsibilities for home and family are more fairly shared between husband and wife, it will be difficult for women health workers to take advantage of opportunities for continuing their education. Participants in the consultation stressed the need for more women to work in higher-level "managerial" positions and as heads of and teachers in education/training programmes. Training for leadership in the non-formal health system was also felt to be of importance, so that women could take charge of local health activities and strengthen links with the formal system.

Changing attitudes about women

Women's contribution to health, great as it is, is for the most part neither noticed nor acknowledged. This is in part due to the relatively low level of self-respect and self-confidence which many women have. Once their self-esteem increases, they are likely to receive more respect and consideration from men. To acquire this self-esteem, women must organize and support each other. As a corollary, women must cease to believe that only the kinds of work men do are important and that only men can do such work. They must train to do what are regarded as men's jobs, and they must accept such jobs when offered them. Moreover, women's drive towards having men share more equally in family responsibilities, including health care, will help to initiate and reinforce needed change so as to bring about both in the health field and in society a more equitable division of labour and

rewards between the female and male populations. This applies to opportunities for training and work, roles, levels of participation, workloads, recognition, and remuneration. Men and women must reflect this thinking at home—cherishing, supporting, but also challenging their sons and daughters without discrimination.

Changes are also called for in the attitude towards each other of health care providers working in the formal and non-formal sectors. Health workers in the formal sector must become aware of, acknowledge, encourage, and support the work of providers in the non-formal sector. Health care providers in both sectors can ill-afford to maintain a climate of mutual disdain and mistrust.

What top-level decision-makers really feel about women and their contribution to health work is not easy to ascertain. But even in countries which have enacted laws and formulated policies to support sex equality, it seems that little practical effort is made to implement and enforce them.

Health education

Everybody, man or woman, needs health education. But since women are the principal providers of health care, it is they who most need health education programmes so that they can improve their own health and that of their families and communities.

Because women—especially those living in villages and urban slums—are already heavily burdened and have little time to spare, the schedule and location of health education programmes must be such that women can participate in them. It is probable that those women who most need health education are illiterate: this calls for special teaching methods and, over the longer term, comprehensive literacy programmes.

The health of families, not least of all the women in them, is adversely affected by the poor image women have of themselves. Health education must encourage them to see themselves in a better light, as regards both their biological functions and their role in the home and the community. And it is not only the traditional health-related factors (hygiene, food, sleep immunization) that must be stressed. Health education for both men and women must also emphasize that mutual understanding and respect between family members as regards the sharing of housework and child-rearing, especially when the woman has duties outside the home, have no less importance for both physical and emotional health within the family.

PRIMARY HEALTH CARE

MORE RELEVANT TRAINING COURSES FOR NURSES

Members of a WHO Expert Committee have recommended urgent action to make post-basic education programmes for nursing teachers and managers more relevant to the social and health needs of people. The Committee on "Training Nursing Teachers and Managers with Special Regard to Primary Health Care (PHC)" met recently in Geneva. It recommended a fundamental re-orientation of all post-basic training curricula for nursing teachers and nursing managers; they should ensure that the principles of primary health care, as the means for attaining the goal of Health for all by the year 2000, will serve in future as the unifying frame of reference for educational programmes.

Many post-basic nursing schools had now reached a crisis as a result of the shortage of teachers, both quantitatively and qualitatively, the Committee concluded. Nursing teachers in both basic and post-basic programmes lacked the necessary preparation to teach the new social orientation and the technical awareness that could make nursing more relevant to national needs and resources, especially in the Third World.

A recent WHO survey of post-basic training schools underlined the lack of relevance of educational programmes to the most pressing social and health needs, and found that most teachers and administrators in those schools were not aware of the principles of primary health care nor of the Health for all goal. While the teachers appeared to have positive attitudes towards changes in the curricula, they also apparently lacked the motivation to work towards such changes. The shortage of time, a lack of just compensation for their work, frustration due to the negative attitudes of school administrators, and an unclear understanding of the role of nursing in primary health care were cited as possible reasons for this failure.

The Expert Committee confirmed these findings by the WHO survey and expressed its concern. It called for urgent action to develop "crash" training programmes to give teachers the relevant orientation, and expressed the need for a nucleus of nursing leaders to be formed who could serve as agents for change and could try to convince those who at present were not enthusiastic about such changes.

The Expert Committee meeting was opened by Dr Tamas Fülöp, Director of WHO's Division of Health Manpower Development, who stressed the need to re-orient the post-basic nursing education programmes towards the primary health care approach. He underlined that the Health For All Goal could not be reached without the participation of nursing personnel.

To provide health education for women is to train health educators for the community. "Teach a mother to be healthy and she will teach the rest of mankind."

Employment

Every plan for national development must include employment policies and strategies for their implementation. A society which has trained certain of its members has invested in them: this investment must be protected. Employment strategies and structures must be such that women no less than men are enabled to participate effectively.

The education/training and employment policies of most countries are geared to a norm based on the time available to men, for whom marriage and parenthood and other life-cycle events are just that—*events*, with little or no influence on their decision to pursue education or to enter or stay in the paid labour force. For a woman, marriage and motherhood are *transitional periods*. Pregnancy and child-rearing demand time, and this time must be—can only be—deducted from the time women have available to participate in gainful employment.

The day when the time available to women becomes the norm in employment, both men and women stand to gain. The current work-mode is a 5-6-day working week, with fixed hours of work each day. Recent experiments, however, with such approaches as variable or flexible working hours, a shorter working week, and part-time work, have helped to reduce the rigidity of the system to the benefit of men and women alike.

Part-time work offers a convenient way to combine paid employment with domestic work. However, this solution remains controversial as it often condemns women to second-rate jobs, poor working conditions, and low pay without social security and other employment benefits. Part-time work for both men and women must provide the same general employment conditions as full-time work, so that part-time workers are not penalized.

Support systems

The national policies now emerging in certain countries with respect to workers who have family responsibilities can be classified in three groups. One group concerns legal and administrative measures to eliminate discrimination against women and enable them, where necessary, to alternate in their dual roles. *e.g.*, equal opportunity laws, maternity leave, reduced

working hours. Here it is important to ensure that workers making use of these provisions are not thereby deprived of pension rights, health insurance, or future employment. The second group concerns measures of support for parents working or studying outside the home—*e.g.*, child-care facilities, domestic services, and canteens for take-away meals. Day-care facilities are paramount but unfortunately in short supply in most countries. They may take traditional forms—*e.g.*, a central creche-cum-kindergarten, leisure-time centres for schoolchildren, hobby-rooms, or workshops—but the search continues for alternative less costly options, such as the day-mother mode, by which one woman takes into her home a group of small children whose mothers are at work. The third group of support measures is addressed to workers who have interrupted employment because of family responsibilities and who wish to return to work. Such measures, which include vocational guidance, additional training as required, and job-placement services, can be accommodated within the framework of a national system of continuing education, as mentioned earlier.

Infrastructure development

"Infrastructure development" is used here in the sense of the planning, mobilization, and use of national resources to enhance the work of women in health development and make it less burdensome. Such activities often fail because they are neither integrated into an overall plan nor given continuing support. Often enough, there is no bureau or department of women's affairs (about a third of the Member States of the United Nations had not, by August 1982, created any form of body to implement the plan of action formulated in 1975 by the World Conference on International Women's Year in Mexico City). Even when such a department exists, its size, membership, and resources may be inadequate.

Countries which lack a department of women's affairs should create one; countries where one exists but it is weak should strengthen it. If such departments are to coordinate the health-related work of women's organizations, a survey of them should be carried out, identifying the leaders, objectives and functions, willingness to collaborate with other bodies, and the kind of support needed.

Insofar as possible the aim should be to make use of existing resources and programmes, reorienting and supporting them so that they are fully responsive to the needs of women engaged in health development.

(Continued on page 46)

GLIMPSES OF NEUROSURGERY

DR P. N. TANDON

Neurosurgery is a relatively new discipline of medicine. In its modern form it was initiated in India in 1949 by Dr Jacob Chandy in Vellore, to be followed shortly afterwards by Dr Ramamurthi in Madras and Dr Ginde in Bombay. The last two decades have seen a rapid stride in its development, both quantitatively and qualitatively. There are now more than 200 neurosurgeons in the country, distributed in nearly 50 different departments. There is no neurosurgical operation done anywhere in the world, which is not being successfully done in India today.

What is Neurosurgery? What is its scope? How is it performed? What kind of facilities are required for it? What future holds for this discipline? These are some of the questions which are often asked by the lay public and the author answers some of these in this article.

NEUROSURGERY is, simple speaking, surgery on the nervous system, *i.e.*, brain, spinal cord and nerves, for the treatment of neurological diseases. It also includes surgery on the skull and spinal column which protect the brain and the spinal cord respectively.

Neurological disorders requiring surgery afflict human beings from birth to ripe old age. Some common examples of these are:

Birth defects

Sixty per cent of all symptomatic birth defects are seen in the nervous system. These occur in 2.4 per 1000 live births. The three common examples are, hydrocephalus, *i.e.*, excessive accumulation of fluid in the brain resulting in a large head, spinal defects generally called meningoceles and skull defects re-

sulting in protrusion of the brain as a swelling outside the skull. There is a special type of skull defect which we see more frequently in some parts of India compared to the rest of the world, *i.e.*, the variety called Nasal Encephalocele—the brain protruding out through a hole in the floor of the skull in the region of the nose.

All these require surgical correction early in life. Unfortunately all are not treatable. It is now possible to diagnose such untreatable lesions during pregnancy and appropriate measures can be taken to terminate such a pregnancy.

Injury to the brain

Head injury affects all ages but for more frequently children and young adults, often at the prime of life. On an average 200,000 persons are victim of road accidents each year in our country; 70 per cent of these suffer head injury. While most of these patients can be treated by general surgeons, 10–15 per cent require specialised treatment by the neurosurgeons. Timely surgery for open wounds (compound injuries) and brain clots can save lot of lives and prevent long term invalidity. In the small head-injury unit of the All India Institute of Medical Sciences (A.I.I.M.S.) doctors treat nearly 600–700 patients every year, amongst whom nearly 150–200 require surgery.

Brain infections and their prevention

Infections of the nervous system, most of them curable, many of them preventable account for 10–15 per cent of all neurological and neurosurgical admissions in the hospitals. These also commonly affect children and young adults more frequently. When infection results in the formation of an abscess or a tumour-like mass, surgical intervention becomes necessary. Owing to failure in taking preventive measures we see such larger number of these cases than in the Western countries. Defective hygienic practices are responsible for some of these, specially the parasitic diseases like cysticercosis, etc.

The following few examples will illustrate how brain infections can be prevented :

- (a) If we avoid mosquito bite and prevent malaria, cerebral malaria, which is the most dangerous form of the disease can be eliminated. Even otherwise prophylactic use of anti-malarial drugs in endemic areas will reduce the chances of infection.
- (b) Use of polio-vaccine prevents poliomyelitis.
- (c) Avoiding eating any uncooked, unwashed vegetables/salads will prevent cyticerus infestation of the brain.
- (d) In cases of open wounds of the skull proper and prompt surgery prevents later infection.
- (e) Prompt and radical treatment of discharging ear will prevent 90 per cent cases of brain abscess.

These examples can be multiplied.

Brain tumours

Surgery for brain tumours constitute the largest part of activity of the department of Neurosurgery. Brain tumours afflict 10 out of every 100,000 population. Fifty per cent of these are benign and hence curable. In A.I.I.M.S., this Unit operates upon nearly 300 such cases every year, several times more than any single neurosurgical department in the whole of the North American Continent. Modern diagnostic methods have made it possible to diagnose these early. Likewise, advances in anaesthetic techniques, sophistication of surgical facilities like operating microscope instruments, etc., have made such type of surgery far safer than what it was a decade ago. Owing to the advanced stage of the disease when our patients present, the average mortality is still undesirably high in the range of 10—15 per cent. However, for several types of tumours an operative mortality of less than 5 per cent has already been achieved. The results in the Institute are already comparable to many advanced centres and we have no doubts that these can be further improved.

Strokes

Sudden onset of paralysis or loss of other neurological functions, due to defect in blood supply (ischaemia) to the brain or rupture of a blood vessel resulting in haemorrhage, till recently was beyond the scope of any active treatment. While it may afflict persons at any stage, it is more frequent in the elderly persons at any stage, it is more frequent in the elderly age groups. With the rise in life expectancy, stroke is assuming increasing importance, affecting approximately 200 persons per 1 lakh of population. Along-

with heart disease, it is the commonest cause of death in all advanced countries. High blood pressure, a diet high in cholesterol and saturated fats and cigarette smoking are important risk factors. Daily stress, obesity, diabetes and lack of exercise are also disadvantageous. By changing the life-style and correcting these risk factors the chances of living a longer and healthier life can be improved.

Recent advances in diagnosis and surgical technique have made it possible to cure at least some of these patients and help some others. This type of surgery, still in the stage of evaluation, has greatly improved with use of operating microscope. An increasing number of such operations have been performed by the department during the past 5 years.

Functional disorders

Neurosurgical operations are also carried out to relieve such functional disorders like epilepsy, Parkinson's disease, intractable pain, etc. It may be pointed out that there is very little role of neurosurgery in the treatment of patients with mental illness. Such operations, very common in the 40's and 50's are seldom required now. The tremendous advances in the medical treatment have taken care of such cases.

It may be pointed, at the cost of repetition, that most of what neurosurgery can achieve today has been made possible, not only because of advances in surgical skills, or techniques, but also due to the advances in diagnostic facilities, specially neuroradiology and dedicated efforts of anaesthetists, who not only give safe anaesthesia for long hours but also supervise pre- and post-operative care. Intensive care management, a joint responsibility of the whole team, and not the least, a very high standard nursing care are essential for good results.

There are a large number of other conditions like spinal injury, tumours, discprolapse, etc., or nerve injuries and nerve tumours which are treated by Neurosurgeons.

Neurosurgery, in spite of the extreme delicate nature of the nervous tissue, is today successful in a large majority of cases. It is safe and should not be dreaded or delayed when indicated. Though lot more needs to be done to add to its benefits, the advances made in last decade itself are a genuine boon for patients suffering from diseases of the nervous system requiring surgery.

(Based on a public lecture at the All India Institute of Medical Sciences, New Delhi)

BETTER HEALTH IN DELHI'S SLUMS

NARINDER N. VOHRA

Tackling all the health problems of India's capital city will be no simple matter. But thanks to a greater awareness of the issues at stake, the city has seen a steady increase in relevant action programmes aimed at solving the problems.

IN Asia, India is the second most populous country after China. Among the 11 countries which form the South-East Asia Region of WHO India has the largest population—around 684 million at the 1981 census. Of this vast total, 23.73 per cent live in towns and cities.

India has 3,301 "urban agglomerations" with populations of over 5,000. There are 216 cities with 100,000 and more, and 12 cities—or rather super-cities—with one million and more people. With an area of approximately 3.3 million square kilometres, India has a density of 220 people per square kilometre.

During 1971-1981, the urban population of the country increased by approximately 50 million, of whom about 14 million live in the super-cities. According to demographic studies undertaken by the United Nations Secretariat, Delhi will have a population of 13 million by the year 2000, third in size after Bombay (19 million) and Calcutta (20 million). At present, Delhi has

a population of about 6.2 million, and the overall density is 4,178 persons per square kilometre.

In trying to appreciate the health care problems in a metropolitan capital city, it is not altogether fruitful to get over-involved with statistics. However, to form a broad mental image of the city-state, the following data about Delhi (figures for 1981 unless otherwise stated) may be of interest :

- Number of Villages=243
- literacy=61.06 per cent (national : 36.03)
- crude birth rate=18.1 per 1,000 (national : 33.3)
- crude death rate=5.9 per 1,000 (national : 12.4)
- infant mortality rate, based on 1978 assessments=70 per 1,000 (national : 170)
- hospitals : number of beds=63 : 13,163 beds
- dispensaries=495 (419 urban)
- dispensaries specially run for government employees=96 (for 1,191,000 employees)
- medical centres of traditional systems of medicine, yoga and homoeopathy=8 hospitals : 196 beds and 131 dispensaries
- number of pharmacies, 1980=3047
- population served per hospital bed, 1980=467

—medical colleges : annual admission capacity=5 : 510

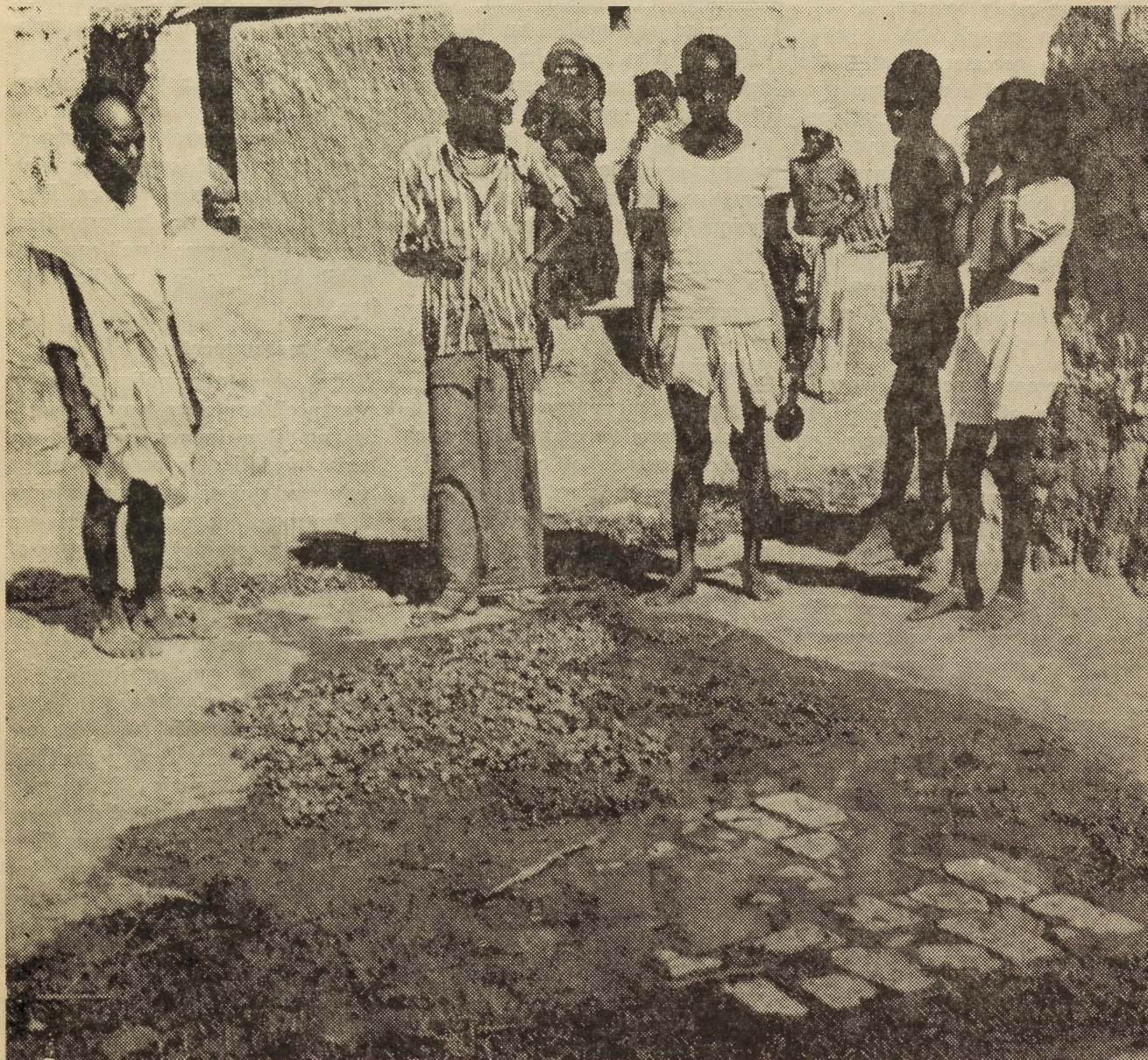
—medical colleges of other systems of medicine (Ayurveda, Unani and Homoeopathy) : annual admission capacity=1 : 260

—pharmacy colleges : annual admission capacity=2 : 90.

Since Delhi is an almost totally urbanised territory, with a well spread out network of medical services, the question arises : why is it necessary to worry about the provision of primary health care services? To understand this problem we must go back a little in recent history. At the time when developing countries were attaining national independence, most of the cities enjoyed rather limited *medical care* systems devoted entirely to providing *curative services* to the more important segments of the population. There was, at that time no notion of "health care." Public health measures related to laying on water supply and sanitation and taking preventive action against smallpox and plague. Again, the bulk of these efforts were focused on serving the higher echelons of society; for the mass of the population, the control of communicable and other diseases was largely left to the forces of nature and each individual's survival capacity. Delhi was among the cities which inherited such a situation.

National governments have to concern themselves with the health and welfare of all people. Hence the growing sense of urgency about organising effective preventive and promotive measures, on primary health care lines.

Besides its natural growth, the large increase in Delhi's population—52.4 per cent between 1971 and 1981—has been due to the fact that the city is the seat of the Central Government of India, the Parliament, the Supreme Court, premier universities, medical, scientific and technical institutions, major



Health committees consisting of community leaders and interested members of the public have started work, dealing with such everyday problems as blocked drains and polluted water sources.

PHOTO : WHO/N. Vohra

business and commercial organizations, banks, art and cultural institutions, and so forth. Most of these institutions lie in New Delhi—the administrative centre of the ancient city-state of Delhi. Thousands

visit the city, from all parts of the country, to transact governmental or private business or for other reasons. The large scale building and other developmental activities in the capital also attract an ever increasing number of immigrants—contractors, craftsmen, artisans and manual labour. Besides all this, there is a significant influx of domestic and foreign tourists.

With the passage of time the medical services in Delhi have

grown considerably in size. Many new service centres have grown up and the capacity of the existing ones has expanded.

So what are the weak links in the existing set-up of Delhi's primary health care services? A horde of organizational, managerial, financial and technical problems can readily be seen.

Firstly, there are too many authorities charged with delivering one or another aspect of health care

in the city of Delhi. The reasons for this can easily be seen. In any metropolitan complex as large as Delhi, there necessarily has to be a good number of autonomous, specific-purpose organizations responsible for water supply, sanitation, electricity, housing, maintenance of roads and bridges and street lighting, garbage collection, prevention of food adulteration and pollution of air and water, primary and secondary education, adult literacy, and social welfare activities.

For inherent, functional reasons the majority of these agencies are primarily answerable to their respective governing bodies. Consequently, they cannot really be involved with resolving inter-agency coordination problems. Such a situation, besides being unsatisfactory on its own account, does not make it easy to embark on an integrated health care approach, covering the needs of those who live in the city's slums and squatter colonies.

Secondly, the first concern of the various authorities directly concerned with health services has been to meet the curative care requirements of Delhi's mushrooming population, to say nothing of the thousands who travel from adjoining Indian States, or even from abroad, for medical relief and specialised care.

It would be unfair to blame the authorities for this preoccupation. What they are doing is to satisfy not imagined but real, pressing needs—the inadequate servicing of which would understandably produce public criticism.

So what is the government doing to resolve these problems? As regards the effective coordination between the large number of agencies concerned with providing health and related services, the Delhi Administration has evolved, in collaboration with the Union Ministry of

Health and Family Welfare, the Planning Commission and other concerned authorities, an integrated action plan for health care. This defines the roles and responsibilities of individual agencies. A proposal to establish an "apex" health authority, consisting of senior representatives drawn from each of the various bodies, is also being examined. For the present, the coordination is effected through inter-agency meetings presided over by the chief executive authority of the Administration.

In what amounts to a clear, visible shift from the curative approach to the provision of comprehensive primary health care services, with organized back-up and referral support, the current National Development Plan (for 1980-1985) accords high priority to establishing outreach, first-contact services as close as possible to the doorsteps of the people. The first level of attention is devoted to the care of the less privileged and neglected elements—those who live in the so-called "unauthorised" colonies, slum-dwellers and so forth. It is also relevant to mention that the Revised 20-Point Programme—the country's charter for action—gives top priority to stepping up comprehensive health care services. Progress towards reaching the various objectives constituting the Programme are regularly reviewed at the level of the Prime Minister.

What specific efforts are being made to improve the lot of the urban poor?

Social and preventive medicine

Firstly, effective steps have been taken to orient medical students and faculty members towards social and preventive medicine. Groups of students, under the supervision of their teachers, work in urban health centres (as distinguished from their work in the rural primary he-

alth centres—already an essential part of the educational programme). They make regular visits (to provide preventive, curative and health education services) to the underserved colonies and peripheral areas. The Central Government provides financial support through its "Re-orientation of Medical Education" scheme, besides providing, free of cost, three well-equipped mobile clinics to each medical college.

Slum improvement

Next, the former policy of "slum clearance" has given way to a policy of "slum improvement." Such basic facilities as water supply, baths and toilets, drainage, paving of footpaths and street lighting are now being provided as a matter of course.

Government bodies as well as non-governmental organizations are providing day care services for infants and pre-school-age children through the establishment of creches and nurseries (*balwadis*). Children receive training in keeping themselves clean and also enjoy free meals and supplementary diets. Regular contact with mothers takes place through discussion groups where trained women workers impart useful health education.

Participatory action

In order to foster participatory action for social programmes, health committees consisting of community leaders and interested public elements have been started in each locality. These committees not only ensure suitable consultation with local residents about felt needs but also provide a mechanism for the communities to oversee improvements and have a hand in managing such facilities as water supply systems, larvicidal control of vector-borne diseases, or keeping immunization records of children and mothers.

(Continued on page 52)

Microelements Pollution poses Grave Danger to Mankind

K. R. SWADESHI

As a result of man's industrial activity, the microelements content of the environment is increasing rapidly. They are called microelements because eighty per cent of all chemical elements exist in very small doses in the atmosphere—thousands of one per cent and in some cases even less. However, they play a very important role in the development of animate matter, stimulating and regulating various bodily processes.

OF late, the interest of the Indian ecologists in research to trace elements in the environment of the industrially developed cities is growing increasingly. The scientists of the National Institute of Oceanography carried out their study in Cochin and noted the presence of copper, manganese cobalt, nickel and zinc at the four stations in the backwaters of its northern arm. Surprisingly, there is complete absence of animal life in areas near the site where effluents of the industrial belts of Cochin are flowing into the Periyar river. It is feared that it may be due to high levels of zinc and copper concentrations.

As a result of man's industrial activity, the microelements content of the environment is increasing rapidly. They are called microelements because eighty per cent of all chemical elements exist in very small doses in the atmosphere—thousands of one per cent and in some cases even less. However, they play a very important role in the development of animate matter, stimulating and regulating various bodily processes.

For instance, cadmium helps regulate the sugar content of the blood. Sharpness of the vision depends

on the presence of selenium. Arsenic directly influences haemoglobin synthesis, though it is not one of its components. However, their excess is as harmful as their shortage. Cadmium is a carcinogenic substance, which more often than not gets into the body with tobacco smoke. The mushrooms fly agaric and death-cap owe their toxicity to a high content of selenium. Arsenic is a poison known from ancient times.

These microelements are absorbed by plants from bedrocks—oak roots, for instance, reach 10 metres deep into the soil—and when the leaves fall they make their way to the earth's surface. Moreover, they are also brought to the surface by volcanic ashes. Mt. Etna in Sicily spews out 1,100 tons of zinc, 365 tons of copper, 130 tons of lead and three tons of silver annually. Microelements also come down with meteorites and cosmic dust from outer space. Besides all these sources of nature, man's productive activity has emerged as a new powerful factor in dispersing these elements in the environment.

Man's role in pollution

When man smelts ore to obtain metal it results in pulverisation and diffusion. Blast-furnace gases

contain dust, including cast iron, calcium, magnesium, manganese, lead, arsenic and mercury. The production of just one ton of copper emits almost two tons of similar dust. Metal objects also wear and become corroded. Since mid-'70s, approximately 20 billion tons of iron had been smelted, but the entire world metal stock—structures, machines, mechanisms—accounts around six billion tons and the remaining 14 billion tons having rusted away. At the same time, coins and silverware, bracelets and wedding rings all wear out. It is estimated that ever since gold is used as currency approximately 2,000 tons of gold have been lost. And if one includes the attrition of gold jewellery, the total gold losses run into five-six thousand tons.

Mercury, arsenic, cadmium, copper all penetrate into the soil together with the chemical means of plant protection. Many micro-elements also form part of fertilisers. Besides, 70 chemical elements become pulverised in the combustion of various types of fuel. For instance, lead is dispersed with the exhaust gases of motor-vehicles, whose world total now exceeds the 300 million mark.

Once these substances make their way into the environment, they can spread over thousand of miles by means of sea and air currents. For example, pollutions which are picked up by the Gulf stream off the US coast are transported across the Atlantic—to the Norwegian and Barents seas. Samples taken in the Pacific have shown a very high content of cadmium, lead, zinc and copper in rain waters over the open ocean 2,000 kilometres away from the coasts of Japan. Its industrial pollution is even felt south of the equator. Today, the Greenland surface ice contains lead 500 times more than the deep-seated ice which goes back to the first millennium B.C. According to a Soviet scientist, the iron content of the earth soil will double in the next 50—60 years, and the concentrations of other metals will also increase by the same proportion if not more.

Soviet research

The Soviet ecologists have carried out research to evaluate the character of the forthcoming changes, which is on the basis of complete use of all fuel and ore reserves on land, and compared the data obtained with the present-day metal content of the soil and living matter. According to them, arsenic intake would reach 6.5 billion tons against the present content of 14 million tons—a 470-fold increase. Lead and mercury contents would increase by 16-fold and 18-fold, respectively.

Pollution of microelements, in fact, increases in direct proportion to industrial concentration and population density. At present, densely populated areas claim only two per cent of the inhabited land. The influx of some chemical elements into the environment in the most developed areas would exceed their natural content by tens of thousands of times in the soil and animate matter.

Strategy for pollution control

The harmful influence of any toxic substance manifests itself worst of all precisely when it is pulverised into minute particles. For instance, a lead monument as high as the Eiffel Tower would be far less noxious than just 10 tons of lead scattered in the form of micro-size aerosoles. It is precisely such particles that get into the blood through the lungs. A correct strategy of pollution control lies in their concentration—the maximum limitation of scattering. The best way is to design an integrated waste-free nature-industry plant like the one to be built in the Soviet Ukrainian city of Zaporozhye in order to keep the technology and nature in harmony. The Soviet specialists are also using the ashes of the slates burned in thermal power stations as the main building materials and for the construction of the motor-road in Estonia.

Metal from water

For thousands of years metal has been smelted in fire. A newly devised method makes it possible to obtain metal from water. Ground ore is plunged into a solution populated by metal-seeking microbes which immediately set to work. The microbiological method of copper is already in operation in the Soviet Urals and Kazakhstan and a method to obtain uranium, arsenic and zinc has been developed. The new method has also raised the level of metal extraction, in comparison to "hot" metallurgy. The researchers of the USSR Academy of Sciences' Siberian Section, have already developed an acid-free procedure for obtaining phosphorous fertilisers.

The creation of an economy based on an ecological balance will naturally require huge expenditure, a great deal of time, efforts and resources, but it is possible if mankind renounces the arms race and divert the sum thus saved for ecological purposes. The American biologist Barry Commoner was absolutely right when he said that peace between man and nature must be preceded by peace among mankind.

—SOVIET FEATURE

Review of Sociological Studies On Tuberculosis

—Implications for Health Education

DR A.B. HIRAMANI & A.K. BHATIA

With the growing realization of reference of social factors to tuberculosis, a large number of sociological studies and surveys have been conducted by research scholars. The researchers of these studies and surveys through their research efforts have tried to discover answers to meaningful questions through the application of scientific procedures.

The primary purpose of the paper published below is to present in brief the concepts, major findings and the implications for health education from a number of studies illustrative of the nature of work being done in a variety of areas important to the development and improvement of health education.

As a first and important step for effective programme planning in health education is the collection of information related to people's beliefs about their own health and the health of their families and communities. The studies reviewed here were conducted in other countries and these will throw light on basic issues of the disease. Efforts were made to review as many studies as possible from the journals available. The various studies reviewed cover the areas of knowledge, attitude and practice (KAP), communication action research, surveys and evaluative studies. A deliberate effort has been made to include as many published studies as possible.

However, in a special area like health education research, no bibliography can be truly comprehensive. It is not possible to cover all the studies due to inaccessibility of materials and inadequacy of time.

A major expected outcome from this literature review effort is that through improved communication of research findings, there will be an increase in research participation and advance in methodological sophistication, and most of all a greater increase in the potentials of health education practice.

TUBERCULOSIS as a disease entity was known many centuries before the present era and the fact that it is communicable was also recognised since long. It was known to exist in an endemic form in most parts of the world. The possibilities of its taking an epidemic turn, where conditions such as overcrowding, malnutrition and unhygienic living conditions prevailed, were also recognised. However, the discovery of the tubercle bacilli in the year 1882 clinched the issue regarding the causative agent, and with this knowledge, attempts to treat this disease and to prevent its spread received added impetus.

Tuberculosis is a global problem and exists in developed as well as in developing countries. Tuberculosis death rate has fallen spectacularly in many countries of the world; but the number of people suffering from the disease is still very large even in these countries.

The steps emphasised for the control of the disease, especially after the discovery of the tubercle bacilli, were mainly towards detection and treatment. This meant that great attention was given to individual cases than to social and community aspects of the disease. As time went on the importance of the latter came to be recognised. Efforts, therefore, were made to educate public on various aspects of the disease and its prevention.

While looking at the medical aspects of the disease, one cannot ignore social aspects related to it as well. The way people think about the disease, the social stigma attached to it, the economic and social deprivation of the person suffering from this disease, all these questions have great significance towards the recovery of the patient.

Review of studies

In order to estimate the value of tuberculosis case discovery through chest X-ray surveys, a group of active cases of pulmonary tuberculosis was discovered by a community wise chest X-ray survey conducted in Minneapolis by Robert Anderson in 1947.¹ This group was compared with a group of active pulmonary cases reported to the city health department just prior to the survey.

The two groups of cases were found to be similar in respect of age and sex and of bacteriological significance. However, 37 per cent of the surveyed cases were discovered in the minimal stage, compared with 22 per cent of the non-surveyed cases. Conversely, only 16 per cent of the surveyed cases were in a far advanced stage, compared with 33 per cent of the non-surveyed cases.

Using a life-table method to study the survival of these two groups of cases over a period of four years, it was estimated that the chance of a surveyed case dying within four years was one out of 10, whereas chance of non-surveyed case dying was one out of three.

A difference observed in the outcome of tuberculosis in the two groups of cases studied are to some extent a reflection of the value of early case discovery through intensive tuberculosis case finding efforts.

A basic assumption underlying mass case finding programmes is that those persons with disease who are detected are "better off" than they would have been had they not been detected. A study was undertaken by Philip E. Enterline to test this assumption.²

An experimental group and a control group were constructed on the basis of a second reading several years later of 208,555 70mm. photofluorograms taken in two community wise chest X-ray surveys. This second reading made possible the identification of 3,638 persons considered negative at the time of the survey but positive when the films were re-read. And 3,670 persons considered positive at the time of the survey; and negative when the films were re-read. Of those considered negative at the time of survey but positive on second reading, a reviewing radiologist considered 3,179 as positive (Control group). Of those considered positive at the time of the survey but negative on second reading, he considered 2,772 as

positive (experimental group). With this mortality experience of these two groups was then compared.

For persons whose chest X-ray films showed evidence of tuberculosis, the death rate was about a third lower in the study group than in the control group. For persons whose chest X-ray films showed evidence of cardiovascular disease; the death rate was about 15 per cent lower in the experimental group than in the control group.

Gahiher and Wright attempted to find out what the public learns during the community X-ray survey.³ They conducted an interview poll of their country two months in advance of the survey and repeated the poll on a similar sample two months after the survey. An educational campaign was carried to seek community participation. The results indicated that the people's attitudes are, for the most part, constructive and that the level of knowledge is encouragingly high. But great knowledge deficiencies were found regarding these areas; inheritability of tuberculosis, lack of symptoms in early tuberculosis, role of climatic factor in treatment, and the incidence of the disease in older age groups. A comparison of these findings was made with the results from a nation wide Gallup poll and from similar polls in several other cities. The most striking comparative finding was the marked similarity of public knowledge in these widely separated cities. In general, peoples' beliefs about tuberculosis were not changed significantly by the educational campaign even though change among them was noticed regarding X-raying.

Between 1949 and 1960, three tuberculin surveys were done by George W. Comstock of the Eskimo population living in the Yukon-Kuskokwin delta of Alaska.⁴ The results of tuberculin tests among children below three years of age were utilized to obtain an estimate of the tuberculosis infection rates. In 1949-51, the average annual infection rate was 24.6 per cent, in 1957 8.5 per cent, and in 1960, it was only 1.1 per cent. This dramatic decline appears to have resulted not only from improvement in social and economic conditions but particularly from a vigorous anti-tuberculosis campaign with emphasis on case finding, isolation, and treatment.

Tuberculosis among children

Evelyn F. H. Rogers underlook comprehensive survey of nearly 4,000 children in the Whitesboro School District, Oneida County, New York State who were given tuberculin tests and all positive reactors

were X-rayed as a sequel⁶ to the diagnosis of tuberculosis in the driver of a school bus. In the whole district, 145 or 4 per cent of the children reacted to tuberculin and 56, or 1.5 per cent were considered to have active childhood tuberculosis.

Significantly higher rates occurred in children who either rode with the bus driver or attended schools served by bus than in children from other schools in the district. The tuberculin reaction rates were 32 per cent for children riding this bus, 2.2 per cent for children attending the same school and 0.8 per cent for the children attending other schools. The rates for active tuberculosis were 19.5 per cent for children riding the bus and 0.1 per cent for all other children.

With the exception of a small group of 5 years old children it appeared that although the younger age groups were less likely to show tuberculin sensitivity on exposure to tuberculosis, they were more likely to develop active disease after conversion of the tuberculin test than the older groups.

No unusual incidence of tuberculosis was evident in the familial contacts of the tuberculin reactors or of the children with tuberculosis. No tuberculosis was found in the school personnel other than in the one bus driver. A trend was noticed towards a rise in reactor rates with increasing riding time on the bus.

Adjustment after discharge from hospital

A follow-up study of 66 patients consecutively discharged from 1, January 1959 to 31, May 1959, from Oregon State Tuberculosis Hospital was undertaken by Pragoff Hale⁶ to determine their adjustment one year later to medical recommendation for chemotherapy, diet and activity. Relationships of adjustment to certain social characteristics and to environment were investigated, and adjustments of alcoholic and non-alcoholic patients were compared. All patients, one year after discharge were being treated in clinics or hospitals or by private physicians.

Twenty four of the 66 patients made a satisfactory adjustment in all categories, five were unsatisfactory in all categories and the remaining were judged satisfactory in some areas but not in others. Of the total group, nearly three fourths followed drug therapy satisfactorily but only two-fifths carried out diet and activity as recommended. About 45 per cent followed diet and activity recommendations in a fairly satis-

factory manner, and 20 per cent were judged fairly satisfactory as to medication. Nine per cent were unsatisfactory as to drugs, 12 per cent as to diet and about 14 per cent in activity.

Adjustment to medical recommendations seemed to be influenced by factors like sex, marriage, education, occupation, living arrangements and kind of environment, income, kind of discharge and alcoholism. Satisfactory adjustments were more frequent among those who lived in good environments in their own homes. More women than men adjusted satisfactorily.

Of the study group, 50 per cent of men and 12 per cent of women were classified as chronic drinkers. Use of alcohol appeared related to irregular discharge 61 per cent of the alcoholics having left this way. They lived in less favourable surroundings than non-alcoholics, and most of them were labourers.

Investigation of social factors affecting the adjustment of discharged patients is important to improve planning for patients, particularly in regard to those social factors relevant to the elimination of tuberculosis from the community.

Participatory attitude study

Jacob Schonfield underlook a study⁷ in 1960 to identify some of the reasons for non-participation through an analysis of family and attitudinal characteristics that might differentiate the participators from the refusers. This study reports the existence of differences between two groups in areas of decision making about health, attitudes towards physicians, knowledge about certain diseases and certain family characteristics.

Of 344 mothers of grade school children in the Mass who were requested to participate in a tuberculosis skin-testing programme in the schools, 133 mothers (33 per cent) allowed their children to participate initially, 132 of the mothers (38 per cent) refused permission initially but allowed their children to participate in the later years. Ninety nine mothers refused on two occasions to allow their children to participate for one or the other reason.

No differences were noticed between the families in the above four groups on such variables as mothers age or education place of residence, the child's sex, race, grade in school or type of school attended.

Children whose parents refused permission for tuberculin test, but who said that such testing had been done by their own physicians, were found to have their fathers in the upper educational and occupational brackets and belonged to smaller sized families while compared with the remaining children. Mothers of these children displayed the most favourable attitude towards doctors.

Mothers who refused to give permission for their children to be tuberculin tested, and who did not report giving them such a test privately, revealed more fearful attitudes towards physicians, and had less favourable attitude towards doctors. They also displayed the least knowledge towards tuberculosis as well as about the administration of the present tuberculin testing programme.

In contrast to both the above groups, the mothers who allowed their children to be tuberculin tested in the schools, displayed a much more favourable attitude toward the screening programme and were also in favour of making such a programme compulsory. In comparison with the group of mothers who reported not having their children tuberculin tested, all these mothers were more knowledgeable about tuberculosis and were more favourable towards and less fearful of physicians.

Knowledge and attitude

Waren H. Southworth conducted a survey about knowledge and attitude of adult population towards tuberculosis⁸. The survey was conducted by Madison Tuberculosis Association in collaboration with key community groups and health technicians. The purpose of the survey was to ascertain the extent of correct information most Madison adults possessed in regard to tuberculosis, attitudes towards tuberculosis and persons inflicted with it and differences in attitudes and information level of people in different socio-economic group.

Eighty three item questionnaire was devised after careful consideration which were critically studied by the Advisory committee. A random sample of adult population in Metropolitan Madison was drawn. A total of 618 residential addresses were included in the sample. A letter was sent to each address prior to a visit by one of the volunteers describing the study and explaining why the address was part of a sample which had been selected on a chance basis. Each questionnaire was accompanied by a cover sheet, which indicated the specific address to which question-

naire should be delivered and the sample number for that address completed questionnaires were obtained from 520 (84 per cent) households in a random sample of 618 residential addresses.

Analysis of the data showed that a large majority of the adult residents were well informed about the cause and spread of tuberculosis. Ninety three per cent of them knew that most people who have TB were not born with disease, 81 per cent knew that it was an infectious diseases, 74 per cent believed that crowded homes were favourable to the spread of TB. Ninety eight per cent respondents indicated that a healthy person can catch TB and 86 per cent said that a person is never too old to have TB. Eighty eight per cent of the population were aware of the purpose of tuberculin test. Eighty seven per cent of the population said that if there were an X-Ray machine and an operator right there, they would agree to have chest X-rayed. Another eighty two per cent of the population believed that they would have a check up for tuberculosis once every year. Eighty six per cent knew that a person can have TB without feeling sick. Sixty eight per cent of them indicated that if they caught TB, they would prefer treatment in a sanatorium rather than at home. Eighty per cent knew that if given early care and treatment, most persons who have tuberculosis will get well.

Ten per cent thought that a person with early tuberculosis feels sick, another ten per cent did not know the cause of disease, twelve per cent residents did not know that the tuberculin test determines, another twelve per cent believed that a lot of fresh air and exercise can prevent TB, twenty five per cent did not understand the meaning of a negative tuberculin reaction.

This misinformation or lack of information was most pronounced in the older age groups and among residents in the lower educational and economic levels. The authors feel that since tuberculosis affects more people in the older age brackets and in lower economic and educational levels, there is much need for intensified education for such groups. The data in this study points to the necessity for more personalized education and persuasion and contain a plea for better planning and organisation.

Recognition and hospitalisation

Barbara T. Ganem of the division of tuberculosis control Massachusetts Department of Public Health, undertook an analysis of factors leading to recogni-

tion and hospitalisation of tuberculosis patients.⁹ The purpose of the study was that the analysis would bring into focus areas where concentration of efforts would yield more productive case finding and earlier diagnosis with consequently shorter periods of hospitalization and disability.

The sample of 274 patients was drawn from the population of the five sanatoria. These were hospitalized in the five tuberculosis sanatoria in Massachusetts during a 3 months period in 1964 were admitted because they developed symptoms and sought medical attention or, as ex-patients, they had shown evidence of reactivation. One hundred and seventy eight with previously unsuspected disease were discovered because of illness, often after prolonged duration of symptoms. Only 12.8 per cent of the entire sample and 19.8 per cent of the previously unsuspected cases were identified through routine screening programmes.

Of the 137 persons with previously unknown tuberculosis in four of the hospitals, 78.8 per cent were observed as bacteriologically positive; and a known contact was mentioned in only 33 medical histories.

Because practising physicians in private clinics seem to bear the burden of early and frequent diagnosis, routine and prompt use of the tuberculin test and chest X-Ray. Also, about 32 per cent of the sample who were ex-patients under supervision point to the importance of adequate follow up facilities for out-patients.

Study of inactive cases

John, A Sbarbaro of the disease control service of the Denver Department of Health and Hospitals had a programme to recall persons whose tuberculosis had been diagnosed as inactive during a 10 year period¹⁰. The purpose of the survey was to discover active cases of tuberculosis and to eliminate further infection of population from this source; and to prevent potential reactivation of tuberculosis by offering each person who had bacteriologically negative results a course of prophylactic isoniazid.

From the 1,404 names selected from a register of persons with inactive tuberculosis, only 83 (6 per cent) were actually contacted. Of these persons 69 failed to keep their appointment and only fourteen persons kept their appointments.

Chest reontgenograms and sputum cultures were obtained on all 14 persons. One of the 14 had relap-

sed to active disease. Five of the remaining 13 accepted preventive isoniazid chemotherapy and eight patients refused. The case finding rate for 14 persons was 71.4 per 1,000.

Socio-economic conditions

In order to ascertain the state of living conditions and of socio-economic conditions of patients Bora B. N. undertook a study¹¹. The sample consisted of seventy newly diagnosed pulmonary tuberculosis patients. These 70 patients were randomly selected from a total of 75 new cases who attended the tuberculosis clinic in S.M.S. Hospital, Jaipur. At least one home visit was made to each family by the health visitor and the general data concerning age, sex, occupation, education, type of family, housing condition, sanitation, dietary status, history of immunisation and of previous treatment were noted. Of the 70 patients, 40 were males and remaining 30 females.

The analysis of the results indicated that males consistently showed higher morbidity rates than females, the ratio of the morbidity rate being about 1.5 : 1. Analysis further showed that besides age, this disease is influenced by occupation, overcrowding, malnutrition and industrialization.

The highest morbidity rates were shown in poor and middle class families, the members of which generally have more contact for the sake of employment, business etc. The percentage of BCG vaccination was poor. Compulsory BCG vaccination of susceptible population may be considered as a useful measure of prevention of tuberculosis.

Follow-up study

This is a follow-up evaluation study of large scale tuberculin testing and vaccination in Puerto Rico conducted by George W. Comstock¹². It reveals that BCG vaccination had little overall effect in reducing the incidence of tuberculosis and did not reduce the severity of case occurring among non-reactions.

In 1949-51, 1,91,827 children between 1 to 18 years of age were enrolled in a controlled trial of BCG vaccination in Puerto Rico. The trial was conducted as similarly as possible to a mass vaccination campaign. Among the 1,976 cases estimated to have occurred without vaccination, 29 per cent were non-reactors to 10 Tuberculin Unit (TU) of tuberculin and hence were eligible for vaccination. Although vaccination resulted in a 29 per cent reduction in tuberculosis that would have resulted from a complete vaccination programme was less than 9 per cent. Vaccination did not

reduce the severity of cases that occurred among nonreactors. Screening with 100 TU of tuberculin would not have resulted in a significantly different estimate of the effectiveness of BCG.

Summary

Discussion on few behavioural studies here mainly highlights social and individual behaviour that plays important role in the spread of tuberculosis. From most of the studies, it is evident that epidemiological approach has been adopted to locate T.B. Cases and even for investigation. In order to diagnose and detect a case of T.B., X ray seems to be a predominant method used. Individual behaviour such as drinking habit and its association with occurrence of tuberculosis has been highlighted by only one study. Nevertheless, such individual behaviour, combined with poor surroundings, manual jobs and low economic level would prove to be a contributory factor, as it is observed from most of the studies. Upper educational level, financial and occupational level and even small sized family have been found to be affecting the attitude of families to accept what the physicians suggest either for prevention or for cure of T.B. One gathers an impression from these studies that as far as social etiology of communicable diseases and more particularly T.B. is concerned, the developed and developing countries do not vary much. Although the review of literature covers studies conducted in U.S.A. the findings of these studies do suggest that more or less similar situation prevails in India.

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FORMULATING PROGRAMMES OF ACTION

To make even a small dent in such a complex and massive configuration of attitudes, customs, practices, and laws will require energy and persistence but also a methodical approach. The participants at the consultation examined in detail the step-by-step process whereby plans for country-level activities could be translated into a coherent programme of action.

The first step is to ensure that the planned activities enjoy political, public, and financial support. The last can be sought from governmental bodies but also from companies in the private sector, who might welcome an opportunity to improve their public image or to qualify for tax relief. Next, where appropriate, formal policies must be established. When consideration has to be given to competing ideologies and priorities, a team approach is needed. A policy-formulation team should be established bringing together representatives not only of various ministries (health,

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education, agriculture, labour, justice) but also of the bureau of women's affairs, of organizations active in the women's rights movement, and of bodies such as equal opportunities, law-reform, and family-planning commissions.

The last step before actual implementation of planned activities is programming and programme budgeting. The programme document should specify the objectives, the activities to be carried out to achieve them, requirements for resources (human, financial, information, etc.), means for assessing progress, and a calendar of action. The programme budget should contain not only estimates of the funds needed but potential sources thereof. It was recommended that workshops, national and regional, should be held, perhaps with WHO sponsorship, at which participants could learn how to compose and write up their programme documents and budgets so that they are both realistic and attractive to those whose approval and support will have to be sought.

Courtesy: W.H.O. Chronicle Vol. 37, No. 4.

WELFARE VILLAGE — A SUCCESS STORY

D. G. MOHAPATRA

THE village Rebatiraman was quite unknown a few years ago, though it is located only 2 Kms. away from Puri town, famous for the temple of Lord Sri Jagannath. The village situated on the bank of river Mangala consists of 52 families out of which 46 belong to the scheduled castes locally known as *Doma* and *Bhoi*. Many of them were leading a miserable life. With little resources they just lived from hand to mouth. Due to lack of health consciousness, some of them were suffering from various diseases. Their children also suffered from a number of common ailments.

The Prime Minister's new 20-point programme gave a new face lift to the village and a new life to its people. The workers of *Puri Satyasai Seva Samiti* adopted the village and started the weekly *Balvikas* classes and *Bhajans mandlies*. They aroused a sense of ethnic values among them and as a result the wine-addicted villagers gave up their drinking habits. The women folk were helped to organise the *Easwarama Mahila Samiti* through which the Block authorities are feeding 50 children, pregnant and nursing mothers under the National Feeding Programme. The ten poorest of poor villagers were given loans for purchase of goats and sheep with 75 per cent subsidy under ERRP Scheme. The village was connected with an approach road from the main road. The most acute drinking water problem was solved when the local PHD authorities sunk two tubewells in the village. The DIC, Puri opened a training centre in which 6 women are now undergoing training on palm-leaves craft. An Industrial Cooperative Society is also being set up to finance the village artisans and to sell their products through it.

That was an evening to remember, the evening of 18th September, 1983. Rebatiraman was crowded with the people from the neighbouring villages. The State and District Level Officers were present to watch the inaugural ceremony. The villagers were well-dressed and children were in a festive mood. The local M.L.A. Shri Gadadhar Mishra declared it as a "Welfare Village". Dr T. N. Pani, Chief District Medical Officer, Puri, in his welcome address said that Rebatiraman would stand as a mile-stone in the history of health services and its echo would resound in every nook and corner of the entire nation.

Rebatiraman, once a gloomy and dispirited village is now laughing and bubbling with enthusiasm, looking forward to a richer and fuller life. Prime Minister's new 20-Point Programme seeks to provide health and family welfare services to people, especially to those sections of the community who continue to be trapped in poverty and ill-health. This is an example where people's participation and official help have borne expected results.

The Health and Family Welfare Department of the State also came forward to lend helping hand to the villagers who were till now unable to come out of the age-old bonds of poverty and diseases. Detailed discussions were conducted in the District Family Welfare Review Committee and Chandanpur Primary Health Centre took up the challenge to make Rebatiraman an ideal welfare village. The main architect of this inovative concept "Welfare Village" Dr B. D. Sahu, A.D.M.O. (FW), Puri, expressed the hope that the inhabitants of the village would soon be free from almost all diseases and in the long run the eligible couples would be accepting the small family norm —the ultimate aim of this Scheme.

At the outset a thorough socio-economic survey was conducted which revealed a number of vital health problems. Health of 472 villagers was examined. This included seven sputum tests. 106 children were immunised and 55 children were given vitamin-A solution to prevent blindness. 72 people were supplied with Folifar tablets to prevent anaemia. 51 persons were administered Tetanus Toxoid injections. 43 children were given Anti-Polio injections. To eradicate malaria, DDT was sprayed in all the houses of the village. The blood samples of 289 persons were examined and treatment was given. 297 people were inoculated with anti-cholera vaccines. Two trench latrines were installed, three soak pits were dug and the villagers were explained the health hazards of using open fields for defaecation. Three filaria and two leprosy cases were detected and treatment was started. The beneful effects of a large family were explained which resulted in accepting of family planning methods by 53 couples. △

PRIMARY HEALTH CARE

IN line with its efforts to achieve the social goal of health for all by the year 2000 through primary health care, the WHO Regional Office for South-East Asia, together with the Government of the Democratic People's Republic of Korea, organized a Regional Conference on Primary Health Care in Pyongyang from 7 to 16 September, 1983. The objectives of the Conference were:

- (1) To exchange country experiences in the organization and implementation of primary health care;
- (2) to assess primary health care development vis-a-vis national socio-economic development and national health systems;
- (3) to define alternative approaches to the development of the health infrastructure for integrated implementation of the eight essential elements of primary health care, and
- (4) to define the coordinating role governments and international organizations in supporting and mobilizing resources in support of primary health care and to formulate recommendations in the organization and further development of primary health care.

In all, 35 participants from 18 countries from all WHO regions attended the Conference. In addition, representatives of five United Nations agencies, viz., ESCAP, UNDP, UNFPA, UNICEF, and UNIDO also participated.

RECOMMENDATIONS

Having reviewed the progress made in different countries in the implementation of the "health for all" strategy through primary health (PHC) care and noting the various problems and constraints being faced, the conference made the following recommendations for the consideration of Member States, WHO and other United Nations agencies:

Political Commitment

Noting that there is already a strong political commitment in all the countries for achieving the goal of health for all by the year 2000, it is recommended that:

A programme of public information and health education should be launched to strengthen and create the desired awareness and commitment among the people and their representatives. This would hasten the process of demand generation for PHC facilities among the people, which in turn will lead to further enhanced political commitment.

National Health Policies

Now that most of the countries have formulated their health policies and health for all strategies, it is recommended that:

- (i) Action be taken to review their strategies from time to time and revise them as necessary;
- (ii) National health policy on PHC be broadly disseminated among all professional groups and functionaries involved in

community developmental activities in both health and non-health sectors. The community and its leaders should also be made aware of the policy for mobilizing their participation.

National Plans of Action

Based on national plans of action, the PHC programme has been under implementation for a few years now. In order to ensure that the programme is along the right lines, it is recommended that:

- (i) The existing programmes for implementing PHC be evaluated at regular intervals to assess their effectiveness. Findings and conclusions should be utilized for reprogramming as well as for the reorientation of functionaries;
- (ii) Health education about the various components of PHC be included as a regular subject in general education at primary and secondary levels.

Intersectoral Coordination

Considering that socio-economic development and health development are closely inter-related, and that there is a need for close collaboration and coordination between health and other socio-economic activities it is recommended that:

- (i) Concerted actions from all health-related development sectors be initiated, strengthened and coordinated to support and to contribute to the health sector for achieving the goal of health for all;

- (ii) A strong coordinating mechanism between the different departments/ministries of governments dealing with health and health-related subjects be evolved and set in motion to implement PHC activities;
- (iii) While intersectoral collaboration is necessary at all levels, it is more essential at the grass-roots level, and it is therefore imperative that detailed programming (micro-planning) and implementation at community level be encouraged and strengthened;
- (iv) Since it is not axiomatic that economic development should invariably lead to improvement in the health status of the people, there should be conscious and well-directed efforts through health education to ensure that the hazards due to changing life-style and environment brought about by the dynamics of development are either eliminated or minimized. Similarly, the negative effects that might come about as offshoots of developmental projects of the Government should be identified in advance and the health interventions that are required to be undertaken should be planned as essential and integral ingredients of such projects.

Community Participation

Considering that awareness among people is essential if they are to participate actively in the planning, implementation, monitoring and evaluation of health development and related activities, it is recommended that:

- (i) Appropriate mechanisms relevant to the local situations be evolved to give suitable

training, orientation and motivation to the community and the opinion leaders in order to ensure their total involvement in the implementation and management of their own health programmes;

- (ii) The process of decision-making be decentralized, in order to find speedy and appropriate solutions to the problems related to the implementation of the PHC programme.

Resources for Primary Health Care

Taking into consideration the fact that, in many countries, resource constraints are adversely affecting the implementation of the PHC programme, it is recommended that:

- (i) Governments ensure allocation of adequate funds for the smooth implementation of the PHC programme;
- (ii) Preferential allocation of resources be made on a priority basis for PHC activities in the underprivileged and underserved areas;
- (iii) Programmes directly related to women and children, who form the most vulnerable group, be given higher priority in the allocation of resources;
- (iv) Based on a well-formulated, integrated national plan, the resources of international and national agencies and NGOs be utilized optimally for achieving the broad objectives of PHC.

Health Infrastructure

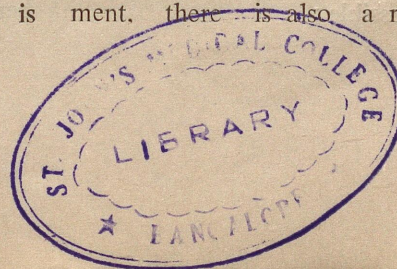
Considering the need for adequate infrastructure for the delivery of PHC services and taking note of the fact that in a number of countries the required infrastructure is

still not adequate, it is recommended that:

- (i) Speedier measures be taken to extend the PHC coverage to all segments of the community that still remain uncovered;
- (ii) In countries where an adequate infrastructure and trained health personnel are not available, a selective approach for the delivery of services on a priority basis to the most vulnerable segments of society and unserved areas be adopted. Such a priority approach should also be adopted for tackling the major health problems of the community;
- (iii) The logistic support for the health care delivery system be carefully planned so as to provide comprehensive, promotive, curative and rehabilitative health care facilities to the community;
- (iv) The existing institutions be provided with facilities for extramural community-oriented services;
- (v) Member States consider adopting suitable measures to integrate the traditional system of medicine with the modern system for efficacious and cost-efficient delivery of primary health care services;
- (vi) Efforts be made to integrate services in the promotive, preventive, curative and rehabilitative areas of health care throughout the peripheral health infrastructure system as well as at the higher referral levels.

Manpower Development

In order to achieve the desired level of health infrastructure development, there is also a need for



developing manpower. It is therefore, recommended that :

- (i) Shortages of manpower for PHC be made up by reorientation of the existing manpower, including the possibility of inducting the health manpower available under traditional systems of medicine ;
- (ii) The pace of basic training for the various categories of PHC workers be accelerated ;
- (iii) Functionaries of all developmental sectors working at community level be given orientation in the PHC concept to supplement the efforts of health workers.

Training

Taking note of the fact that training programmes of PHC workers have already been reviewed and suitably modified in most of the countries, it is recommended that :

- (i) A regular mechanism be established for constant evaluation of training programmes to ensure that the training is suited to meeting the changing needs of PHC ;
- (ii) Selection of health workers be made through the community to ensure community participation thereafter ;
- (iii) The training capability of trainers be strengthened as most of the trainers are medical and technical staff who have little or no experience in training methodology ;
- (iv) As most of the community health workers for PHC do not have the required background in general education, training material and procedures be made as simple as possible ;

- (v) An adequate number of training institutions be established at the peripheral level for the training of front-line health workers and community members ;
- (vi) A programme of continuing education be built into the training programme for PHC functionaries so that their knowledge is periodically updated and opportunities are provided to them for improving their skills ;
- (vii) Appropriate training aids be developed to suit local requirements ;
- (viii) Teachers be trained to impart health education and assist health workers in organizing and implementing school health programmes.

Management Information Systems

Taking note of the fact that the management information system is not fully developed in most countries and that the health services statistics that are being collected are not being analysed in an appropriate manner to facilitate the management process, it is recommended that :

- (i) Sound management information systems be developed that can meet the needs of programme implementators, health administrators and policy formulators ;
- (ii) Management information systems for various elements of PHC and vertical programmes be integrated to avoid duplication of records and reports and to lessen the work-load on health functionaries.

Traditional System of Medicine and Practices

Noting the fact that several Member States have fairly well-develop-

ed traditional system of medicine and practices, which have also been introduced in their national health care delivery systems it is recommended that :

- (i) Member States consider the feasibility of having such an integrated approach in their PHC system through collaboration with each other. This process can be facilitated by exchange of experts, training programmes and development of appropriate systems, including cultivation and development of medicinal herbs of proven efficacy and safety, established on the basis of scientific investigation ;
- (ii) International agencies also play useful and supportive roles in assisting Member States in developing the approach outlined above.

Essential Drugs

Recognizing the inescapable necessity of ensuring the availability of essential drugs in the primary health care system, it is recommended that :

- (i) Appropriate procedural mechanisms and norms be evolved to ensure proper planning, procurement, production, quality-control, and distribution of essential drugs at the peripheral level ;
- (ii) Suitable guidelines be prepared for the dispensing of essential drugs by various categories of health workers ;
- (iii) Member States make expeditious efforts to achieve self-sufficiency in the production of essential drugs required for the PHC programmes.

Role of WHO and other United Nations Agencies

Appreciating the constructive roles being played by WHO and other

(Continued on page 52)

HEALTH IN PARLIAMENT

RAJYA SABHA

16 NOVEMBER, 1983

DEVELOPMENT AND POPULATION CONTROL

Smt. Mohsina Kidwai, Minister of State for Health and Family Welfare, said in Rajya Sabha that decline in fertility had been observed to be associated with economic development. In order to control the fast increasing population in the country, resort to family planning methods had to be made simultaneously as a direct intervention. Even then, the National Family Welfare Programme had been fully integrated with Maternal and Child Health Care and the Health Care Delivery System. Close linkages had been established with related sectors like social welfare, education, industry, cooperation, labour, etc. Constant efforts were being made to strengthen such linkages with developmental activities.

STEPS TO REDUCE MORTALITY

Kumari Kumud Joshi, Deputy Minister for Health and Family Welfare, informed that according to the Expert Committee on Population Projections appointed by the Planning Commission under the Chairmanship of Registrar General of India, the expectation of life at birth for the years 1976-81 for both the sexes was 52.09 years.

"Government has taken various steps to control/eradicate communicable diseases with the aim of reducing mortality rate. Smallpox has been eradicated. The incidence of malaria has come down with the modified plan of operation. Efforts are being made to detect and treat cases of tuberculosis by improved diagnostic facilities and providing treatment. The expanded programme of immunisation aims at controlling the six major killers of childhood, namely, diphtheria, tetanus, pertussis, measles, polio, and tuberculosis. A programme has also been launched to control diarrhoeal diseases to reduce mortality due to diarrhoea by implementing Oral Rehydration Therapy. Apart from the above, programmes of nutrition and maternal and child health services are also aimed at providing better care with the aim of reducing mortality in the high risk group," she said.

NATIONAL PROGRAMME FOR CONTROL OF BLINDNESS

Smt. Mohsina Kidwai said that the National Programme for Control of Blindness envisaged provision of eye care services through mobile units, the establishment of upgraded ophthalmology departments in medical colleges, developed district hospitals in respect of ophthalmic wing, well equipped primary health centres, regional ophthalmic institutes and ophthalmic assistants training centres for the training of ophthalmic assistants to be posted to primary health centres and district hospitals.

For the year 1983-84 a target of about 12.58 lakh cataract and other intra-ocular operations had been fixed for the country as a whole. The following services had been targetted for development under the programme during the year 1983-84:

Name of the service	Target for 1983 - 84
1. Mobile Units	15
2. District Hospitals	44
3. Medical Colleges	10
4. Regional Institutes	2

FACTS ABOUT TUBERCULOSIS

- Tuberculosis (T.B.) is the biggest killer, taking five lakh lives every year and 120 to 150 lakh people suffer from the disease in our country.
- Tuberculosis can be diagnosed easily and cured completely.
- Tuberculosis affects people of all age groups and all parts of body.
- Persistent cough, pain in chest and breathlessness can be its symptoms.
- Tuberculosis treatment is available free at all Government and semi-Government medical institutions.
- Regular and timely treatment ensures 100 per cent success in almost all cases.
- Irregular drug taking leads to resistant type of disease, thus diminishing chances of patient's recovery, as he becomes resistant to the drugs.
- Spread of disease is by way of cough; by using handkerchief while coughing, its spread can be stopped.
- Simple, normal daily food is quite sufficient for patients.
- Prolonged bed rest, change of air or even short hospitalisation are not necessary for the most of the patients; these are only for very acute cases.
- A T. B. patient should get his whole family medically checked up.
- Children must be given B.C.G. vaccination to immunise them against this disease.

—PIB

Continued from page 38)

Field camp approach

The national programmes dealing with tuberculosis, leprosy and control of visual impairment have adopted the field camp approach, whereby teams of doctors and other health workers visit identified sites in the peripheral and under-served areas in order to detect and diagnose diseases and carry out operations under field conditions. Difficult cases are referred to city hospitals.

Private and voluntary organizations receive appropriate assistance to extend their operational areas, to provide primary health care and to impart health education among the

neglected segments of the population.

Among other measures being undertaken in Delhi are organized efforts to extend adult literacy through governmental and private sector activities; effective enforcement of the laws laying down minimum wages and forbidding the employment of minors; a much greater emphasis on providing planned housing facilities, especially to the economically weaker sections of society; and steps to guard against haphazard construction and to ensure that industrial and manufacturing units are located only within designated sectors.

These are some of the more important policy actions in favour of

an integrated, well-knit approach to primary health care in Delhi, with special regard for those living in comparatively neglected pockets of the city.

It would be simplistic to suggest that all the problems of health care in Delhi have been taken stock of and adequately dealt with. However, during the past few years there has been progressively greater awareness of the issues at stake and a steady increase in relevant action programmes aimed at solving the problems. The situation is looking up. We fervently believe that, soon enough, there shall indeed be health for all.

Courtesy : WORLD HEALTH
July 1983

(Continued from page 50)

United Nations agencies in collaborating with and supporting Member States in planning and implementing various health and health-related activities pertaining to primary health care, it is recommended that :

- (i) WHO play a pivotal role in coordinating and channeling the support programmes of all such United Nations agencies consistent with their broad objectives ;
- (ii) Simultaneously, governments also evolve their own co-ordination mechanisms and scheme of priorities in order to ensure that the utilization pattern does not lead to any distortions in the overall perspective ;
- (iii) WHO collaborate with Member States in preparing guide-

lines for essential drugs that could be prescribed and dispensed by other categories of health workers besides medical doctors ;

- (iv) WHO evolve a system of national and regional information related to primary health care for dissemination to Member States. Technical collaboration with Member States should also be promoted in order to facilitate the development of a sound database and a health information system, which, in turn, would enable systematic planning on the basis of epidemiologically determined priorities and forecasts ;
- (v) WHO encourage Member States to develop specific health management guidelines to be used in the training of health workers.

Bilateral and Multilateral Collaboration

Recognizing the useful role being played by several donor countries and agencies in assisting Member States in health and health-related activities and the immense possibilities in the areas of mutual technical cooperation, it is recommended that :

- (i) Suitable mechanisms be evolved by Member States for the optimal utilization of such assistance consistent with the immediate and long-term strategies related to the objective of health for all by the year 2000 ;
- (ii) Simultaneously, Member States have a regular system for the exchange of information in areas of mutual interest.

—HFA 2000, Vol IV, No. 5
Sept-Oct. 1983

ON FAMILY PLANNING

OVER 250 PER CENT INCREASE IN FAMILY PLANNING ACCEPTORS

There was significant increase in the number of family planning acceptors during the period April—November 1983 and the momentum gathered after 1980 was maintained. The number of acceptors of family planning methods which stood at 5.5 million in 1979-80 rose to 11.1 million in 1982-83.

There has been a 5.8 per cent increase in the number of sterilisations between April and November 1983 compared to the corresponding period of the previous year. As many as 2,008,842 people underwent sterilisation between April and November 1983 compared to 1,898,017 during the corresponding period of the previous year. Tripura topped the list with 154.8 per cent increase followed by Tamil Nadu with 150.7 per cent increase.

The increase in IUD insertions was much more commendable with 49.3 per cent increase during this period compared to the corresponding period of the previous year. Maharashtra topped the list with 575.5 per cent increase followed by Madhya Pradesh with 169.5 per cent increase. Madhya Pradesh topped among the States in the matter of acceptors of conventional contraceptives with an increase of 189.6 per cent over the corresponding period of the previous year. An increase of 75.3 per cent was noticed in the number of oral pill users during the same period. There has been over 254 per cent increase in the number of family planning acceptors since 1973-74. The total number of family planning acceptors in 1973-74 was 4,324,000 which went upto 12,534,000 in 1976-77 and to 11,020,000 in 1982-83.

Out of a total of 11,020,000 acceptors in 1982-83 over 39,80,000 opted for sterilisation. Of these, 5,84,000 were vasectomies and 3,396,000 tubectomies. It was also estimated that 1,093,000 women accepted IUD and the remaining 5,947,000 used one or the other methods of conventional contraceptives and oral pills.

The Government has been attaching equal importance to the M.C.H. programme also. M.C.H. programme has been treated as a part of the total family planning efforts as the success or failure of this programme would decide the future of the Family Planning Programme. Unless the health of the child born was guaranteed and its survival assured no one would accept the small family norm.

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Maternal and Child Health programme covered 43,415,000 women and children in 1977-78 and ever since the number has been increasing gradually. By 1982-83 the total number of M.C.H. beneficiaries were to the tune of 80,518,000.

In 1970, population growth rate of the country was estimated at 2.2 per cent; birth rate 36.9 per thousand, and mortality rate 14.9 per thousand. There were 3.8 million acceptors of different family planning methods in 1970-71. The programme was intensified and the average number of acceptors during the first five years 1970-75 increased to 4.7 million. Family welfare programme gathered further momentum during the next two years: 6.8 million acceptors in 1975-76 and 12.5 million in 1976-77. There was a steep decline in the number of acceptors after 1977. The number of acceptors in 1977-78 was 4.5 million which went upto 5.5 million in 1978-79 against a level of 12.5 million reached in 1976-77. This reversed the trend of declining population growth rate evidenced during 1970—77 period. In fact, Sample Registration Scheme (SRS) estimates indicate a slight increase in population growth rate during 1978-80 period: population growth rate rising from 1.83 per cent in 1977 to 2.09 per cent in 1980, recording an increase of 11.4 per cent.

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