Taking cognisance of the prevailing high maternal and child mortality in the country, India’s latest (Eighth) Five Year Plan has adopted an ambitious programme for ‘Child Survival and Safe Motherhood (CSSM)’. The major objectives of this programme are the reduction of IMR to 50, under-five mortality to 70, maternal mortality to 200, and crude birth rate (CBR) to nine. The targets for service-coverage include 100 per cent of antenatal care as well as child-spacing information, an effective couple protection rate of 65 per cent, and 100 per cent deliveries by trained attendants.

These are laudable objectives. However, the enormity of the efforts that will be needed to achieve these goals must be clearly recognised. A brief review of the present national health scene in general and the state of maternal and child health, in particular, will indicate the magnitude of the efforts that will be needed to achieve these targets.

CHILD HEALTH CARE — THE PRESENT PICTURE

According to the 1979 Infant Mortality Survey1, only 32 per cent of children in India who died in infancy in rural areas and 65 per cent of those who died in urban areas were treated by a medical practitioner. The figure for the 1-4 year age group was 51 per cent for rural and 77 per cent for urban areas. While lack of awareness and faith in health services could be responsible for such a situation, lack of access to health services must surely also be an important factor. Only about 12 per cent of 0-4 year old children in rural areas and about 29 per cent in urban areas are presently reckoned to have access to health care. Now that nearly 14 years have elapsed since this survey was conducted, it is to be hoped that the conditions today have improved.

More recent data show that the age-specific death rate for 0-4 year age group is more than thrice the death rate for the population as a whole. Significantly, a higher percentage of deaths in rural areas occur in this age group (48.6 per cent) than in urban areas (36.0 per cent) and more females (48.8 per cent) than males (45.3 per cent) die by the age of five years. Forty-eight per cent of female children and 64 per cent of male children were treated within the first 24 hours of their ultimately fatal illness. Infant mortality accounts for one-third of total deaths, and under-five mortality accounts for over half of all deaths.

While the post-neonatal mortality has shown a slow decline resulting in an IMR of 80 for 1991, perinatal (PNMR) and neonatal mortality (NMR) rates have hardly budged in the past two decades. PNMR was 53.4 in 1971, while it was 50.1 in 1989. NMR was 68 in 1970 and 67 in 1983 (Registrar General of India). The situation remains more or less the same till today. An estimated 2.5 million infants and 1.5 million children between one and five years of age die each year.

A large number of children continue to die of common infectious diseases. Diarrhoea claims a million lives and respiratory problems about 600,000 lives. There is, however, some heartening evidence of reduction in deaths due to neonatal tetanus (5,776 in 1992, as compared to 11,649 in 1988). Tetanus toxoid coverage now is estimated to be 77.5 percent and the goal is to eliminate neonatal tetanus by 1995.

The Kerala experience: We are never tired of citing the example of the Indian state of Kerala for the revolution in health indicators that has taken place there. Between 1921-1930 infant mortality in Kerala was 210, compared to 220 in the whole of India. Life expectancy was 29.5, compared to India’s 26.9. IMR was 68 in 1970 and 67 in 1983 (Registrar General of India). The situation remains more or less the same till today. An estimated 2.5 million infants and 1.5 million children between one and five years of age die each year.

The Kerala experience: We are never tired of citing the example of the Indian state of Kerala for the revolution in health indicators that has taken place there. Between 1921-1930 infant mortality in Kerala was 210, compared to 220 in the whole of India. Life expectancy was 29.5, compared to India’s 26.9. IMR came down to 120 in 1951-1960, and now (1991) is 17; and the pattern is in line with that of the developed countries.

Per capita expenditure on health is highest in Kerala. Private expenditure on health exceeds government expenditure. Putting the two together, the proportion of the state income spent on medical and public health varies between 4.5 and 6.4 per cent. Average per capita expenditure on health-care is a little over 7 per cent of the total expenditure. There is better distribution of health services and because of a vast network of roads (242 km of road length per 100 km² compared to 47 km for the country as a whole), access to health services is much easier than in other states. The high levels of education contribute to awareness and better utilisation of health services, and also to a higher age of marriage and a low fertility rate. Kottayam in Kerala has the distinction of 100 per cent literacy, MMR of 0.03/1,000, birth rate of 9.5 and IMR of 9.5.

Cost of health care: Two important considerations, namely, (a) universal access to health care and (b) containing the cost of health care, have guided health policies of many countries. In delivering health services, cost, outreach and quality are of prime importance. The tremendous increase in the cost of delivery of health care, which is one of the direct consequences of its increasing dependence on high technology, has further aggravated the inadequacy of access to health care.

DRUG POLICY

In a relatively small outlay on health, an inordinately large proportion of India’s present health budget is being spent on drugs. A rational policy on the use of drugs, if implemented, would decrease expenditure on drugs while not adversely affecting the quality of coverage of health care.

The prevailing mismatch in production and distribution of drugs in India is highlighted by the independent assessment of two different UN agencies. UNIDO puts India in Category 4, which means that the country is technologically developed to be totally self-reliant in drugs (as a matter of a fact, India is one of the leaders in drug export). However, WHO puts India in Group A, which means that less than 30 per cent of its population has regular access to essential drugs! In actual figures, the health sector expenditure was Rs 3,105 crore in 1986-87. Out of this, 35 per cent was spent on drugs, which is a large percentage of a small budget. There are over 50,000 drug preparations in the market, while WHO recommends that about 1,500 preparations of about 250 entities are more than adequate to take care of 95 per cent of the illnesses.
The poorest 40 per cent of rural households spend, on an average, Rs 157 for an illness episode, when receiving care from government doctors and Rs 131 when purchasing care from private doctors (42nd Round of the National Sample Survey (NSS)-1987). Medical care cost is only next to dowry expenses as a cause of rural indebtedness. Several reports have assessed that 7-9 per cent of a rural household income is spent on health care which is often of poor quality and by 'doctors' usually untrained. A study on diarrhoea in rural India found that 65 per cent of diarrhoea cases go for medical consultation. Of these 80 per cent go to private practitioners and only 10 per cent go to government health facilities. Almost 62 per cent of 'private doctors' had no formal medical qualifications. Even the poor rural population is more than willing to pay a reasonable amount for efficient health services. In fact, they value services which they have paid for.

While the medical profession is often guilty of prescribing drugs unnecessarily, a large number of drugs are self-prescribed and sold without prescription. Toxicity of drugs used irrationally is being increasingly seen. Drug resistance is becoming common. The National Drug Policy, announced in 1978, had recommended that unnecessary combinations of drugs would not be marketed; that 116 essential drugs would always be available in abundance; and that drugs would be marketed by their generic names. These recommendations have not been effectively implemented.

MALNUTRITION

Protein energy malnutrition (PEM) and micronutrient deficiencies are still widespread, the former affecting half the children under six years. Anaemia is almost universal. While iodine deficiency in erstwhile endemic areas has not been brought effectively under control, new goitre endemic areas have been identified in the irrigated plains. Vitamin A deficiency, even though much less in evidence than before, still manifests in milder forms in large numbers of children.

Malnutrition is, in many respects, the common denominator of the diseases and deprivation processes that reduce child survival. Moderate to severe undernutrition affects nearly half the children and contributes directly or indirectly to 60 per cent of all child deaths. Those severely malnourished have 20 times greater chances of dying than their normally nourished peers. And yet the Eighth Plan hardly makes adequate reference to practical ways of combating undernutrition. It would seem that for a malnourished child every infection is a potentially fatal illness. Several studies and reports have shown a higher rate of malnutrition among girls compared to boys which would contribute to a higher mortality among the girls. The cycle goes on — today's malnourished girl grows up to a malnourished mother, who in turn gives birth to a small, undernourished baby.

REPRODUCTIVE HEALTH

Many paediatricians now realise the vital role that women's health, empowerment and decision-making power play in child health and in child survival; and barriers between disciplines are breaking down. Paediatricians are as concerned with maternal health and fertility regulation as obstetricians and indeed, demographers and social scientists. Limiting reproduction and increasing spacing is really essential for the health of women and children, and ultimately of the nation.

'Reproductive health care should not be equated just with 'family planning'. The scope of reproductive health care should be expanded to include all aspects of women's health. Reproductive tract infections are an important reason for the poor acceptance and low continuation rates of contraceptive methods such as IUD and yet, there is no provision for their management in family planning programmes. A study from Bangladesh revealed high morbidity among family planning acceptors. Women's views on health care have been largely missing from policy debates and should be incorporated in any health policy affecting women, family planning being an important one. Women must be empowered to make informed choices and not considered dumb recipients of a benevolent government programme.

Maternal health, nutrition and education are important for the survival and well-being of women in their own right and are key determinants of the health and well-being of the child. High rates of infant mortality, especially neonatal mortality, are linked to untimely pregnancies, unsafe deliveries, low-birth-weights and preterm births, high fertility rates, etc. These are also major causes of maternal mortality. There is an added benefit of promoting maternal and child health programmes and family planning together in that, acting synergistically, these activities help accelerate the reduction of both mortality and fertility and contribute more to lowering rates of population growth than either type of activity alone.

Maternal mortality: Maternal mortality is the health indicator which shows the greatest differential between developed and developing countries. The life-time risk of death related to pregnancies and child-bearing is estimated to be 500 times higher for women in Africa and large parts of Asia than for those of the developed countries. A majority of deaths occur around the time of delivery. Resorting to unsafe abortion of unwanted pregnancies is another contributing factor. Maternal mortality accounts for 2.5 per cent of all female deaths and 12.5 per cent of deaths among rural women in the 15 to 45 year age group (Office of the Registrar General, 1988).

Dais are being trained in India for the last several decades but a large number of deliveries are still being conducted by untrained dais or family members, as shown in Table 1.

In a study by the Indian Council of Medical Research (ICMR) and by the Maulana Azad Medical College, the proportion of deliveries attended by untrained persons in urban slums was found to be around 60 per cent. The Sample Registration System does

| Table 1: Percentage of births by type of attention at birth, rural/urban, India, 1993 |
|-----------------|---------|-------|
|                 | Rural   | Urban |
| Institutional   | 12.6    | 45.4  | 19.2 |
| Attended by a trained person | 16.3    | 25.4  | 18.1 |
| Attended by untrained person  | 71.1    | 29.2  | 62.7 |

Source: Sample Registration Bulletin
not include slums in the urban sample.

When a mother is seriously ill or dies as a result of child-birth, the infant has to be abruptly weaned from the breast, and generally may not survive. A recent study in Bangladesh found that more than one-third of the infants, whose mothers died post-partum, died themselves during the neonatal period. Other children uncared for might become sick or die. Because of maternal deaths, older girls are prematurely burdened with house work and child care and cannot go to school.

Age at marriage: The proportion of girls who are at obstetric risk is significantly reduced at 18 years as compared to at 14 years. Maternal mortality rates are reported to be five times higher in 12-14 year olds than in 20-24 year olds (WHO, UNFPA/UNICEF, 1989). Raising the age at marriage could, therefore, pay dividends in better pregnancy outcome and better maternal, foetal and infant survival even in the current context of poverty of our rural and disadvantaged urban communities. Children born to adolescent mothers are about 40 per cent more likely to die during the first year of life than those born to women in their 20s and are at even greater risk during the second year.

Three of the most important strategies now available for reducing child deaths - the education of women, spacing of births and breast-feeding - also happen to be among the most direct methods of reducing child births. Breast-feeding prevents more pregnancies than any other method.

Child-mortality - the gender difference: There are ample data on discrimination against the female starting even at birth and going on till the grave. Foeticide has been claimed to be increasing rapidly and there are allegations of an unholy nexus between some laboratories, radiologists and gynaecologists in this regard. There are also alarming reports about female infanticide in some parts of the country. Even allowing for some degree of exaggeration and sensationalisation, these reports must cause concern. In most of the northern and north-eastern states, males outnumber females by almost 10 per cent. The only state in which the sex ratio is above 1,000 is Kerala — with a figure of 1,040.

Between the third and the fifth year, a female child is exposed to much greater risk of death than a male child. It is an interesting observation that a straight line drawn from the city of Bharuch in the west to Birbhum in the east would neatly divide the country into two parts - the northern with an excess of female child mortality and the southern with female child mortality lower than male mortality, the only exceptions with respect to the latter would be Salem in Tamil Nadu, Gulbarga in Karnataka, Kurnool in Andhra Pradesh and Ganjam in Orissa (Figure). The reason for this peculiar distribution of gender discrimination is not clear.

The gender gap in survival is the greatest during the first five years of life when girl-child mortality is about 20 times greater than that of any other five-year age group. Deaths of young girls exceed those of young boys by almost one-third of a million every year. Only after 35 years of age, when women have passed their child bearing years, do female mortality rates drop below male rates (Table 2).

Child health in urban slums: The problem of urbanisation is acquiring increasing proportions. Thirty-three million children and women are living below the poverty line in the cities and towns of India. Children alone number 18 million, of which a considerable number in the big cities are street children.

Considerable information is available now about street children. Seventy-one million live in urban areas of which 18 million live in slums. A recent study carried out in 14 cities by the Ministry of Welfare, Government of India, showed that street children from urban slums were engaged as porters, shoe-shine boys, newspaper sellers, load carriers and about one-third as shop assistants. Most of them were found to work for eight to 12 hours a day. More than a quarter suffer from health problems, with poor access to medical facilities, and are constantly exposed to poor environment, dirt, smoke and extremes of temperature, in addition to poor bathing or toilet facilities.

In 1986, the Government of India adopted the Child Labour (Prohibition and Regulation Act) to protect children under 14 years from hazardous jobs. The Act only covers children going to work under identifiable employers, thereby denying protection to many female children who work as family help. Also the age cannot al-

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Source: Sample Registration Bulletin XXI No 1, Office of the Registrar General of India, New Delhi, 1987
ways be verified in the absence of birth registration.

There is very little information on the health problems of these children. The three main occupations — making matches, gem polishing using silicon and glass, and metal works — are health hazards and cause ill-health and shorten lives. Since by the time these children reach adulthood their health is so impaired as to disable them from hard work, they, in turn, send their own children to work in the same professions. So the vicious cycle continues.

In order that the goals set out in the Eighth Five year Plan for ‘Child Survival and Safe Motherhood’ are realised it will be necessary to take due note of the formidable problems discussed above and to institute specific action programmes to combat them successfully within a reasonable time-frame. The Kerala and Tamil Nadu experiences provide heartening evidence that the attainment of these goals is not impossible. What is needed is deep commitment at all levels and efficient management and development of material and manpower resources already available within the country.

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References


The Foundation


Fund-raising

The Foundation had recently issued an Appeal for Funds to scientists from within India and abroad as part of its fundraising drive. Donors who respond positively to the appeal will be listed in the Bulletin from time to time in the chronological order in which their donations are received.

The Foundation deeply appreciates donations already received from the following scientists:

Dr David Rush (USA); Dr R.K. Chandra (Canada); Dr James Olson (USA); Dr A.S. Prasad (USA); Dr Shubh Kumar (USA); Dr Margaret Biswas (UK).

New WHO (SEARO) Publication

“Nutrition Research in South-East Asia — The Emerging Agenda of the Future” by Dr C. Gopalan, just published by WHO (SEARO), broadly outlines a possible agenda for nutrition research in the countries of South-East Asia for the turn of the century. It deals with some of the major nutrition and nutrition-related research issues that may need special attention in the coming decades. Copies of the book (135 pp, price Rs 125) can be obtained from the WHO (SEARO) office, Indraprastha Estate, New Delhi.

Lectures by the President, Dr C. Gopalan

“Changing Profile of Malnutrition in the Developing World” at the International Symposium on Clinical Nutrition, at the All India Institute of Medical Sciences, New Delhi, on January 6, 1994.


Key-note address on “Public health: The Need for a New Direction”, at the International Conference of Medical Parliamentarians in Bangkok on February 7, 1994.

Plenary Lecture on “The Changing Picture of Child Nutrition in Asia” at the Second International Symposium on Clinical Nutrition, at the All India Institute of Medical Sciences, New Delhi, on January 6, 1994.

Erratum

In the January issue’s (Vol 15 No 1) paper on “Diet in Renal Disease” on page 5, in the seventh para, third line “Amino acids release glucagon from the kidneys” must be read as “Amino acids release glucagon from the pancreas”.

We are grateful to UNICEF for a matching grant towards the cost of this publication.