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### HEALTH AND FAMILY PLANNING—ISSUES IN THE EIGHTIES

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#### THE PRESENT SCENE

THE rate of growth of our population is the most momentous issue of our times. On a rough calculation, it can be estimated that if the present rate of growth were to continue, our population would double itself in 37 years<sup>1</sup>. It would reach a figure of 1270 million people by the year 2015. This would represent a four-fold increase over the 1941 figure of 318 millions. This increase would have taken place in a space of 74 years. Its effects on population density, adequacy of food supplies, nutrition, housing, employment, and human development and well-being as a whole, are too depressing to contemplate. It was in 1951-52 that we in India adopted a programme of planned development so as to enable each individual to develop and grow optimally and achieve his maximum genetic potential. At the same time, we adopted officially family planning as an instrument of planned development.

Much has been achieved since then. Both death rates and birth rates have been coming down. Life expectancy has been increasing. Small-pox has been eradicated. Cholera has lost much of its fury. The expectation of life at birth improved from about 32 years during the 40's to 50 years during the 70's. A vast infrastructure for health care and family planning services has been developed. A network of Primary Health Centres and subcentres has been established in the rural areas. The Community Health Worker scheme, added recently, has now taken the health infrastructure down to the village level. The training of doctors, nurses and other agents of health care delivery has been taken up on an unprecedented scale. There is now on an average, taking the country as a whole, one doctor for every 4,000 of the population. In so far as family planning is concerned, the programme started as a modest effort in the early 50's to provide advice to those who sought such an advice but the programme gained momentum with successive Five Year Plans so that the Fourth Five Year Plan adopted a demographic target of bringing down the birth rate from an estimated 38 per thousand to about 25 per thousand by the end of the Fifth Plan.

Despite impressive progress made so far both in the field of health and family planning, failures have been many and the present situation is serious and calls for urgent attention. The rate of fall in infant mortality rate has slowed down and the rate itself still remains high for the country as a whole. Even more striking are the vast differences in infant mortality rates between different parts of India, ranging

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<sup>1</sup>Interim Report of the Working Group on Population Policy, Planning Commission, Government of India, March, 1979.

from 165 per thousand live births in the rural areas of U.P. to 55 in the rural areas of Kerala. The outreach of services to the most vulnerable segments of the population and to outlying areas is still very unsatisfactory. The imbalances between curative and preventive services continue. There is considerable distortion of health manpower structure and there is still a great deal of over-centralisation of authority and compartmentalisation of services.

As against a target of achieving a birth rate of 25 per thousand by the end of Fifth Plan, the Plan ended with the birth rate of 33 and the birth rate came down only by six points over the preceding 9 years. The revised target is to bring down the birth rate to 30 per thousand by 1983. This would involve an increase in the proportion of eligible couples protected from 24 per cent to 36 per cent. The presently estimated rate of growth of population is about 1.82 per cent per annum as against a rate of 2.24 per cent during the 60's. The situation is further compounded by the fact that even if we succeed in implementing a more vigorous family planning programme, a sharp increase in the age group 15 to 59 years from about 54 per cent in 1978 to about 59 per cent in 1991 seems to be inevitable. This structural change imposes considerable strain on employment and will also result in an increase in the population in the reproductive age group—an increase which is faster than the rate of growth of population in general, thus carrying over a substantial demographic momentum. No matter what we do, more population is in store for us up to the end of this century.

#### A LONG-TERM PROGRAMME

It is obvious that we should plan for a long-term programme aiming at a stationary population at the lowest possible level. A net reproduction rate of unity should be achieved in the minimum amount of time as the Working Group on Population Policy of the Planning Commission (1979) has recently suggested. This could be achieved by the year 2000. A net reproduction rate of 1 means that on an average a woman will be replaced by just one daughter and the two-child-family will be the norm in the society. It is estimated that by the year 2000, life expectancy for both males and females will be in the neighbourhood of 64 or 65 years. How is this goal to be achieved?

First and foremost, the concept of family planning should permeate all activities of Government and voluntary organisations and all forms of safe and effective contraception shall be promoted depending upon the choice of each family. The inseparability of family planning from health services in general, especially from maternal and child health care, should be realised. Legislation of age at marriage, women's education, and women's status in society, population education both for adults and in schools and universities, activities designed to enhance motivation of couples and linking of financial grants to States with contraceptive performance are some of the known strategies that could be implemented more effectively in the future.

#### HEALTH RISKS OF HIGH FERTILITY

Family health and family planning are inseparable and mutually reinforce each

other. The health risks associated with uncontrolled births are well known. Both in developed and developing countries, the evidence is quite strong regarding the adverse effect upon mothers and children arising out of pregnancies that are too many and too close. High foetal losses, high prevalence of malnutrition and poor physical and possibly intellectual development, high mortality amongst mothers and infants, later development of cancer of the cervix of the uterus in mothers are well known manifestations of high and uncontrolled fertility. High infant and child mortality are compensated by excessive fertility and this acts as a vicious cycle. Pregnancies taking place too early, too often, too close and too many leave behind washed out, anaemic and crippled mothers. The risk of poor childhood outcomes is high for children of very young mothers of high parity. Children in Asia and Near East born within a year of their previous sibling are 2-4 times as likely to die as children born 3 or more years after previous birth<sup>2</sup>. A short birth interval and high parity are detrimental to the health of the mother and child. Low maternal attention, increased crowding and poor hygienic conditions are accompaniments of high fertility in poor communities. There is thus *a health rationale for family planning* even if one does not consider the much wider *development rationale*. It would appear that *one of the surest ways of retarding the development of a nation is to allow population growth to proceed unchecked*. Public health and public nutrition are best served by an effective programme of family planning. Family planning should be regarded as a part and parcel of good quality health care particularly those services aimed at reducing the rate of maternal and child mortality and morbidity. We in our country have adopted this policy now and given up the concept of spreading family planning through uni-purpose, family planning activities. There is, however, a potential danger involved in this which must be clearly perceived and corrective actions taken. If family planning is made an essential component of maternal and child care services and if the maternal and child care services themselves are not properly developed, the family planning programme will also go down the drain. It is, therefore, of the utmost importance that health care delivery facilities particularly for mothers and children are developed rapidly. *The concept of continuity of care should be generated and the positioning of services as close to the people as possible should be ensured*. Family planning services run solely as such, remained isolated. They must be combined with nutrition, health, education, and other types of developmental activities at the village level.

#### INTEGRATION OF HEALTH AND FAMILY PLANNING SERVICES

The central hypothesis in our family planning strategy is that success in family planning is best achieved *economically, rapidly and enduringly through the provision of an integrated, comprehensive health and family planning service* at the sub-centre and village level. Several experiences have shown that in the Indian context this is indeed a valid hypothesis. I have often said that the triad of malnutrition, commu-

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<sup>2</sup>Omran, A. R., and Standley, C. C. (Eds. (1976). *Family Formation Patterns and Health, an International Collaborative Study in India, Iran, Lebanon, Phillippines and Turkey*. World Health Organisation, Geneva.

nicable diseases and uncontrolled fertility constitute the sub-stratum of most of tropical pathology. These factors need to be understood and their inter-relationship carefully evaluated if we are to design an appropriate strategy for generating continued motivation for family planning. Perception about chances for child survival is basic to generation of positive attitudes towards family planning. Such a perception leads to motivation for family planning if advice and a wide variety of contraceptive services are available readily. But as I said earlier, *it would be counter-productive, indeed, self-defeating, if the vast network of family planning services are anchored around weak and tottering public health stations, which remain aloof and alienated from the people.* The health services must fulfil the daily needs of people living in rural areas and take care of illnesses of people in their homes and farms—a system of medical and environmental care that is given within the social matrix of communities where illnesses are dealt with at their origin. The reality is that sicknesses exist in abundance. It is through providing an effective medical care programme to the obviously sick that bridges can be established for preventive work in the future and for generating health consciousness as a way of life of people. It is quite possible that the treatment and rehabilitation of sick children with marasmus or saving children with meningitis that would generate confidence and *provide a window to the family planning programme.*

#### THE AUXILIARY NURSE MIDWIFE

The Auxiliary Nurse Midwife (ANM), now called Female Basic Health Worker at the sub-centre together with the indigenous *Dai* at the village level, supported by the Physician at the Primary Health Centre constitute the corner stone of maternal and child welfare services and of the family planning programme. The ANM and the indigenous *Dai* acting in a complementary fashion (but not in a competitive fashion) provide a basic mechanism for improved rural and maternal child health care. It is the training of the ANM and the *Dai* that is of paramount importance for the success of the family planning programme. A health educator, a rudimentary physician, a social worker, a preventive person, all compounded into one is this ANM. She is the person concerned with the vital events from the beginning of life to the time, when the child is able to go to school.

The International Year of the Child (IYC) has come and gone. If the IYC and the Alma Ata Declaration are not to be mockeries, we need to *develop forthwith a framework for systematic and continuing action on behalf of mothers and children—*action at national, local, and intermediate levels, action to *bring about lasting improvements in the services for mothers and children.* The child is linked to the mother genetically and socially. The mother and child constitute a sub-unit of the family. Forces deleterious to child health and child welfare produce diverse effects. These forces need to be tackled on a multiple front involving economic and social development planning in addition to purely sectoral programmes of maternal and child health. We need a *frame-work for a spectrum of social development* if we are to tackle the problem of child health and open *a chapter of family planning becoming a way of life of the people.* A horizontal approach cutting across sectoral programmes

for multiple health and family planning outcomes is necessary. This may not preclude altogether the adoption of a vertical approach where appropriate technology exists and a high cost benefit ratio is obvious, or where an acutely felt need by the people can be fulfilled.

### CONTRACEPTIVE TECHNOLOGIES OF THE FUTURE

*The demographic irrationality of our times has to be tackled both on scientific and social fronts. Population policies are not a numbers game but a question of quality of life of the present and the future generations.* In so far as technology itself is concerned, we need a *more appropriate technology*—"a low cost technology aimed at helping to meet the most basic needs of the poorest people in the world." The technology itself must sub-serve the basic aims of family planning in the best interests of the mother, child and society. There is already a wide range of choices that are available for family planning. By using the existing technologies in a purposeful manner, several countries have shown that in spite of their poverty and underdevelopment, they can bring down birth rates over a relatively short period of time in a significant manner. So also the health status of the population can be improved substantially by an imaginative application of existing knowledge and technologies through political will. *It is not so much more effective contraception we are in need of as more acceptable and more continuous contraception.* A judicious mixture of the use of specific contraceptive technologies within the framework of Primary Health Care and overall developmental efforts is what we should aim at.

What is known in the field of contraception cannot be fully applied because of deficiencies in our delivery strategies. The irony is that *there are millions upon millions of men and women who wish to limit the number of their children* but who, for a variety of reasons, are unable to utilise the available technologies.

There are those who argue that we possess adequate technology for the control of fertility today and that all we need to do is to systematically apply those technologies. There are others who argue that there are many serious deficiencies in our knowledge of the fundamental aspects of conception and transmission of life, of the mode of action of contraceptive agents and of the long-term sequelae of contraceptive agents. They say that we need to do more research to evolve better, safer, and more effective contraceptive agents. As usual, the truth lies in between these positions. It is no doubt true that we possess today some effective methods of contraception which, if applied with a political and social will, can produce significant results in the control of human fertility. It is also true, however, that continuing rates are low, that side-effects are many and that there may even be significant metabolic consequences. The need for research on the effects of contraceptive agents on the malnourished and parasite-ridden populations of developing countries is particularly clear.

What is needed is *something that works, something that is easily accessible, of low cost, is long-acting and is reversible.* Whatever method is developed, *preservation of privacy in a village home setting*, should be regarded as an essential criterion. The search of choices needs to be broadened and it is not fully appreciated that even

for a single person, variety of effective contraceptives needs to be offered which are appropriate to each phase of a woman's child-bearing cycle. The use of setting must be kept constantly in mind. The environment of maternal and child health services is suitable for provision of these services *in a kind and humane manner*.

The research canvas for the future development of contraceptive technology is very wide but the full picture is as yet not clear. At present, it takes 15 years or more to develop a new fertility regulating agent. The question of short-term and long-term toxicity, ethical considerations involving the use of new drugs and devices on human subjects, the costs involved often running into several million dollars for producing a single agent, all these factors need to be kept in focus when one thinks of new contraceptive technologies. Those that are to be used on a large scale at the end of this century should already be in the pipeline today. What then are the prospects? I am not crystal gazing but along with Dr Egon Diczfalusy<sup>2</sup>, I would reflect briefly upon the future possibilities in contraception. *Oral contraceptives in the form of combination pills can and do give adequate contraceptive protection if taken regularly*. During the next decade, a major development that can be foreseen in this field is to obtain more objective and precise estimate of the relative risks in various population groups with special reference to tumours of the breast, uterus and liver, thromboembolic complications and increase in blood pressure. We also expect to have more concrete information on the metabolic alterations in the carbohydrate, fat, mineral and vitamin metabolism following long-term use of oral contraceptives. We would have more data on the effect of these pills on lactation and transfer of steroids to the infant through mother's milk. The inter-relationship between oral contraceptives, pre-existing malnutrition and various endemic parasitic diseases should be clarified.

With regard to *long-acting contraceptive methods*, we expect to have a better understanding of the bleeding problems associated with long-term injectable contraceptive.

The decade of 1980s could see the introduction of a *second generation of medicated intrauterine devices (IUDs)* which would reduce menstrual blood loss, intermenstrual bleeding, ectopic pregnancies, pains and expulsions. High priority would be given to develop a special *post-placental device* which can be inserted immediately after the delivery of the placenta. This, in fact, is a problem in our post-partum programme which should receive the highest priority.

With regard to *abstention through the use of rhythm methods*, further progress would lie in a better understanding of the relationship of various hormonal parameters with the exact time of ovulation. It is not unlikely that a simple, "do it yourself" enzyme immuno-assay kit of the dip stick type may become available to assess more correctly the predictability of the forthcoming ovulation in advance by a minimum of 3-4 days.

In so far as the *so-called menses inducers* are concerned, it is likely that the intra-nasal administration of hormonal preparations such as various LH-RH analogues

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<sup>2</sup>Diczfalusy, E. (1979). Future methods of fertility regulation. *Int. J. Gynaec. Obstet.*, 16, 571-578.

gues and steroids may turn out to be as suitable as vaginal suppositories releasing prostaglandin analogues for this purpose. It would, of course be a matter of the highest priority if orally active prostaglandin pills could be developed.

A revival of interest in agents derived from *indigenous and traditional systems of medicine* which act orally as uterotonic agents and thus as menses inducers, can be seen at present time.

One of the important features of a favourable contraceptive technology today is that it focuses largely on the female. A suitable method for male contraception needs to be developed and this depends upon our understanding of male reproductive biology. Perhaps, there will be a major shift in our research from compounds that inhibit spermatogenesis to those compounds which interfere with sperm maturation, metabolism and motility. New synthetic steroids which have specific spermiostatic effect and certain halogenated sugars which interfere with sperm metabolism may turn out to be the likely candidates.

With regard to anti-pregnancy vaccine, more research on toxicological aspects of this mode of delivering contraception would be done. More knowledge would be available for a better understanding of the variation of antibody titres as well as duration of effect and its reversibility.

The decade of eighties should witness *improvements in the surgical and chemical techniques* for sterilization as well as improved availability of reversible methods.

When all this is done, there will still remain the problem of our ability to utilise the new technologies in a socially and culturally acceptable manner. The reductionist approach of science and specialisation are essential for progress, but disease is often multifactorial. Our precious laboratory findings must be integrated into a holistic framework. Biomedical and socio-medical research must develop increasing collaboration. It is futile to quib over basic and applied research. The future lies in broadening the horizon of inter-play of scientific and human experiences and of trans-disciplinary synthesis. As I said recently at a Congress on Advances in Contraceptive Technology (1978), what we need is a *contraceptive bicycle* that can penetrate rural areas and reach the homes and farms of people, rather than a *contraceptive Cadillac* that has to remain largely on the highways.