

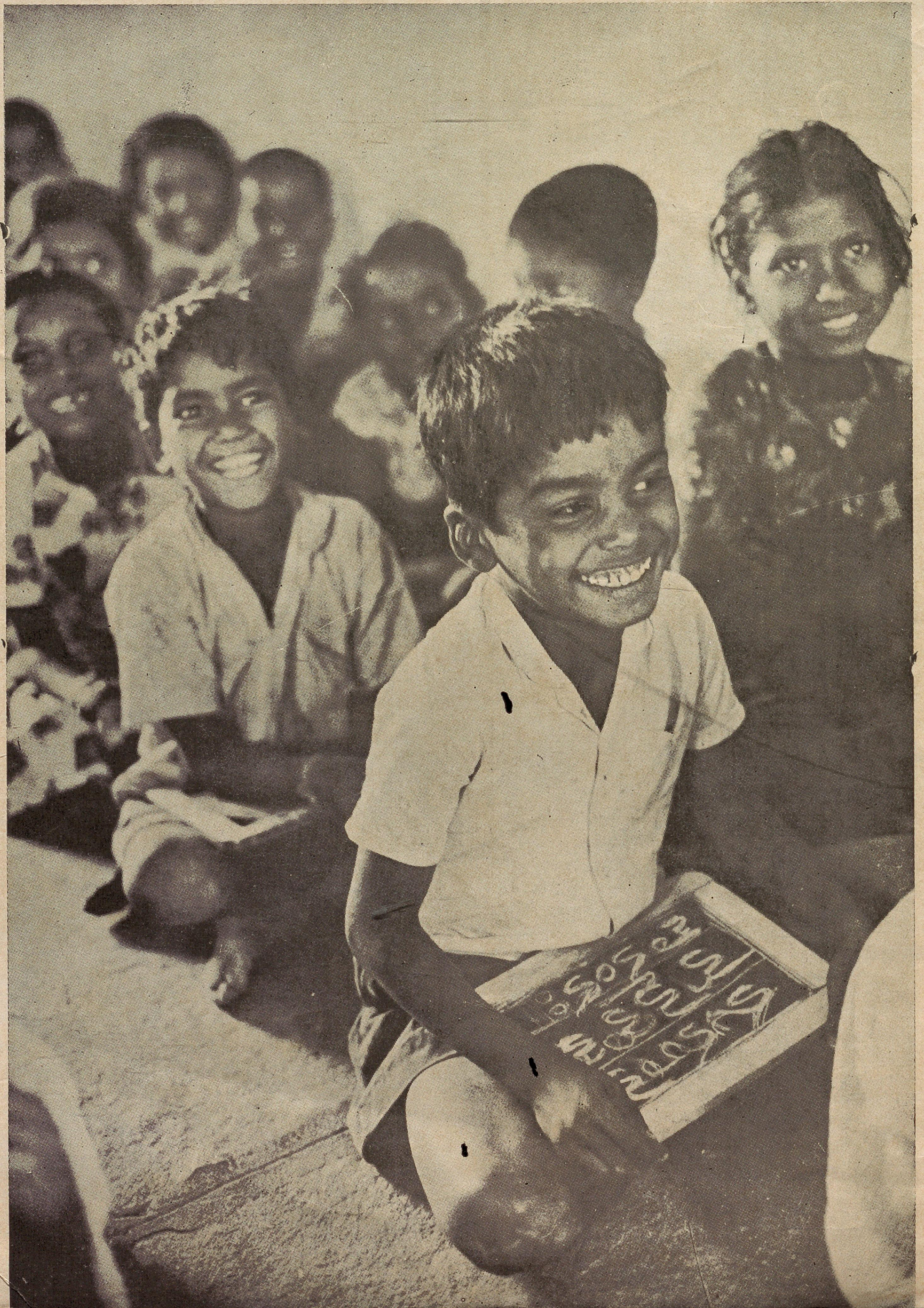
29/11/71

Swasth hind

NOVEMBER 1971



Young Human Resources
Key To National Development



Swasth hind

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

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

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Kartika-Agrahayana
1893 Saka

November 1971
Vol. XV No. 11

Price : Single copy : 25 Paise
Annual subscription : Rs 3.00

Photo Credits : UNICEF—2nd Cover,
pp 321 and 328

OUR COVER

Young are the human capital of every country and the best hope for the future. We must protect them and prepare them for the future—both their future and ours. It is in the interest of the country that our young are healthy, strong, mentally and emotionally equipped to face the future with confidence. They are the junior partners in the glorious adventure of building up a new India, and the present generation of adults owes them a duty which they can ignore only at their own peril.

This special number of SWASTH HIND is devoted to the theme of the Universal Children's Day, 1971—Young Human Resources : Key to National Development.

Message



Prof. D. Chattopadhyaya

Children are a country's greatest wealth. Developing their potential energies and skills is a sure way of achieving and sustaining the nation's economic progress.

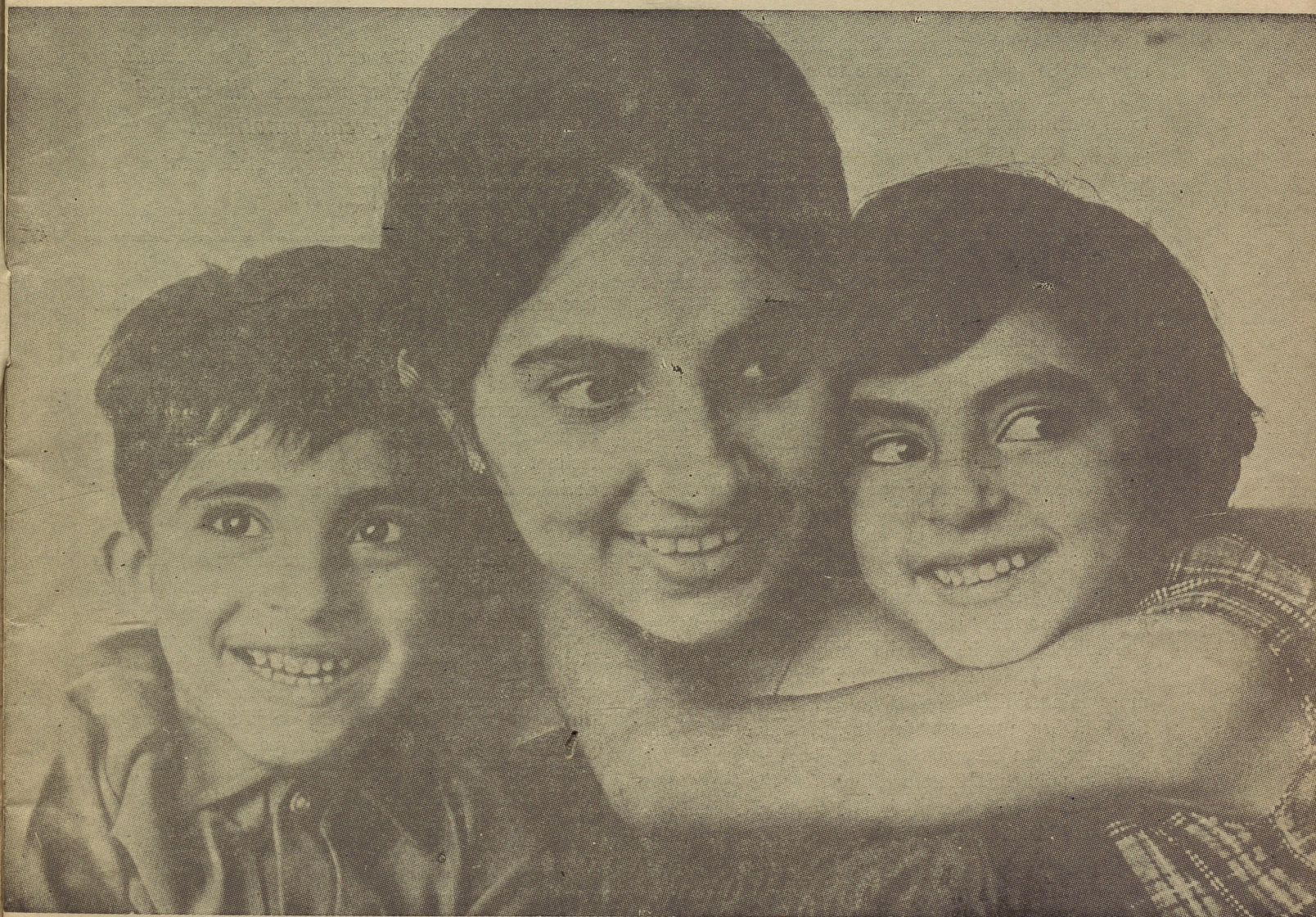
More than forty per cent of our population consists of children below the age of fourteen. Indeed, no greater task confronts us today than to give each child an equal opportunity to realize his full potential for material, intellectual and spiritual growth.

We should not only invest in the care of the child during the first few years of his life, but also prepare him with the necessary knowledge and skills—and provide him with adequate opportunities—to lead a useful and productive life. The educational process should encompass, besides acquisition of information and skills, development of creative faculty and initiation into the supreme values of life, love, truth, beauty and goodness.

Yet, all these capabilities can best be imbibed by a child who has a healthy body and mind. Educating the young boys and girls in sound health habits too should find an important place in school curriculum, as also in homes and community centres. Health education emphasizes the concept of optimum development of each child and promotes physical, social, mental and emotional health. It is one of the better and quicker ways to safeguard our children from ignorance and disease and prepare them well for their future.

I am happy that this issue of *Swasth Hind* carries articles on the theme of this year's Children's Day—Young Human Resources: Key to National Development. I am sure this effort would stimulate further activities in this important area and promote a feeling of dedication among all those engaged in this noblest task of all: protecting and enriching the lives of our young boys and girls upon whom the future of all mankind depends.

D. Chattopadhyaya
Minister of State for Health and Family Planning



SMALL FAMILY FOR HAPPY CHILD

DR (MISS) L. V. PHATAK

IF civilization is the quest for human happiness, a happy child is the acme of civilization. The concept of family planning or planned parenthood is, therefore, rightly emphasizing this point increasingly. Family planning which advocates adequate spacing between children and purports to

limit the family size to two or three children is, thus, ultimately becoming an instrument of making the world a better place for children. How?

First of all, we may define who is a happy child. One is conscious that someone might say that happi-

ness is a quality of mind which may not have any relationship with physical determinants. But that may not be so well applicable to children in whose growth such coordinates as security of home, parental love, nutritious diet, good education, freedom from diseases and morbidity and promise of a suitable career play a very vital part. The question is: what is the relationship of small family with those coordinates?

Planning Family for Child's Health

Surveys and studies conducted all the world over have demonstrated that family planning is highly relevant to health and growth of children. It is for this reason that most paediatricians today feel called upon to commit themselves more and more to family planning as an instrument of their own profession, for they believe that spread of the practice of family planning to those couples who do not practise it currently, will result in substantial child health benefits.

It is by now almost an established fact that fetal or infant mortality is directly related to mother's age and number of children in the family besides the weight at birth. In higher parity families, comparatively more infants die. Similarly, fetal or infant mortality is higher in the case of mothers, less than 20 years or more than 30 years of age. The best period for bearing children is, therefore, limited to the age group of 20-29 years. In a study in 11 Punjab villages, it has been established that if the interval between children exceeded two years, infant mortality rate was markedly low. It has also been demonstrated that growth of children is inversely related to the size of the family.

Similarly, for parental or to be precise, maternal care, it is essential that the family size should be manageable. It is this care in early years that ultimately helps a child to find his feet in the world. It is obvious that the family size can be restricted to manageable limits through family planning.

Higher Intelligence Quotient

It may look somewhat strange, but researches and studies have established that small family is associated with higher intelligence quotient among children. This quality can with advantage be turned

Open-hearted love and care from healthy and happy parents provide all round happiness besides great emotional security to the child. This can be best provided in a small family.

into an asset for the family, society and lastly nation. The promise of good education, no doubt, depends upon economic resources of the family. But the promise of higher intellectual growth can be even more fruitful in the choice of higher professional careers for the children. In the days to come, when technology will reign supreme, this would be a decisive factor in favour of adoption of small family norm.

Disease proneness is also greater among children in large families. No doubt, infant and child mortality has, of late, been decreasing and a child born today has the promise of living longer than ever before due to the cover provided by antibiotics and other improved medicines and lines of treatment, yet disease proneness does leave a great debilitating effect on the health of the child. This results in morbidity which affects the progress and growth of children in several ways, as we in the developing world know it so well to our cost.

Love and Care

The greatest advantage that a planned small family confers on children is, however, the comparative freedom of parents from fits of ill-health and those of worry or temper. Nothing depresses a child more than the moodiness of parents. Financial worry which is so characteristic of large families is at the base of many a quarrel between father and mother and injures the child deeply. Open-hearted love and care from healthy and happy parents provide a great emotional security to the child. This can be best provided only in a small family.

Man is basically a social being. All that happens to an individual is important to society. But what happens to a man in his childhood is doubly important to society. Much of the emotional tensions

(Contd. on page 340)

HEALTH EDUCATION FOR FAMILY HEALTH

DR B.S. SEHGAL

FAMILY comprises a group of persons united together by marriage, blood or adoption, living in a single household and bearing the same culture. A culture again is a way of feeling, thinking and behaving and is a particular group's knowledge stored in the memories of man, in books and in objects for future use. It determines the language a person will speak; the clothes he will wear, the way he will marry, the gods he will worship; the way he will select and prepare his food; treat the sick and dispose the dead. A family is a unit where culture is depicted in its true sense.

Health and disease cannot be described in discrete terms but as a single complex contributed to by the whole pattern of every day living. The individual is a part of the family in illness as well as in health. Family is a unit of illness because it is the unit of living. Each family member besides having inherited the biological handicaps, shares the same house; food, air, water and medical facilities; is exposed to similar stresses and strains of life and partakes all infections and other ills brought from outside.

Man, family and society are, therefore, not separate and independent entities when we consider the entire health spectrum of man. Medicine today has become a social science treating the cause rather than the symptoms. Its main task is to get the people socially adjusted to their environment or to re-adjust them if health is broken down. Family as a unit for health action is therefore of special significance and importance. This is more so in our own context where the family provides for most of our physical and mental needs and looks after the sick in the

family strictly according to the family's resources and understanding of health and disease.

Special Ingredients of Family Health

(a) *Child Health*: The child health objectives that have been adopted by several WHO Expert Committees is "that every child wherever possible (should) live and grow up in a family unit, with love and security in healthy surroundings; receive adequate nourishment, health supervision and efficient medical attention; and be taught the elements of healthy living". The child needs adequate care and protection. Parents have a responsibility to give and provide the special health care needs of children and specially those connected with personal hygiene, nutrition, immunization and medical care. All health habits, good or bad, are learnt by the child in the family environment and it is the family members on whom education of the child for health depends. The common causes of infant deaths, in our country such as neo-natal tetanus, intestinal and pulmonary infections and malnutrition are all preventable or curable by appropriate health measures. Provision of health facilities for children is therefore the responsibility of the community but proper and timely utilization of these is the responsibility of the family.

(b) *Maternal Health*: Maternal health objectives often stated by experts are "to ensure that every expectant and nursing mother maintains good health, learns the art of child care, has a normal delivery and bears healthy children. Health care of the mother is required not only during the period of pregnancy or lactation but much earlier and throughout. In its

own interest, the responsibility of the mother's health is that of the entire family. Family resources must provide to the mother the essential requirements needed for all preventive, promotive, and restorative aspects of her health and also education for 'mothercraft'. The community or the State should provide facilities for maternity care, specially those connected with prevention of common causes of maternal deaths such as toxæmia; hæmorrhage; sepsis and the traumatic complication of labour. The family should know and fully utilize the services available and so far as possible pay for them.

(c) *Family Size* : Health ultimately depends upon the ability of the family's economic resources to meet the essential needs of good health and nutrition. Health of the mother and care of the children will depend upon the spacing between two births and the total family size. Thus, decisions connected with inter-birth spacing and the total number of children in a family should be made by the parents after consideration of their needs; interests; expectations and aspirations. Appropriate education before and after marriage is necessary for parents to take wise decisions. The know-how of family planning and the contraceptive services have also to be provided to enable parents to decide and practise family planning. Family health and family size are inter-linked in many ways. Its implications and consequences have to be known and timely action taken for the health and happiness of the family.

(d) *Mental Health* : Mental illness is invariably the product of social and psychological stresses and strains in a person's living. Family is the place where facilities for mental development and social adjustments can best be provided. Disharmony in the family situation can result in mental sickness and disruption of the family. Because of urbanization and industrialization, the joint family is breaking up and becoming a matter of great concern due to the maladjustment with the traditional roles and expectations of the family members. These factors in the social

environments are likely to change the disease pattern unless some specific preventive steps are taken in the near future.

(e) *Disease Prevention* : Adequate nutrition, preventive immunization, personal hygiene, early detection of sickness and treatment are all measures which the family must practise for its health. Family funds spent on prevention and early treatment are an investment and saving. All this is only possible if the family adults know, have faith in, and practise the measures they want the children to adopt. All these habits must become a part of the 'family life' if they are to contribute to family health.

(f) *Home Medication* : In all families, home remedies are tried in illness. These traditional remedies are those commonly found useful by the family members or those advised by friends or relations and at times picked up through advertisements. Home treatment of many diseases under supervision of qualified physicians is also a common mode of treating many diseases by the families these days. Limitations of home treatment have to be properly understood and followed to safeguard family health.

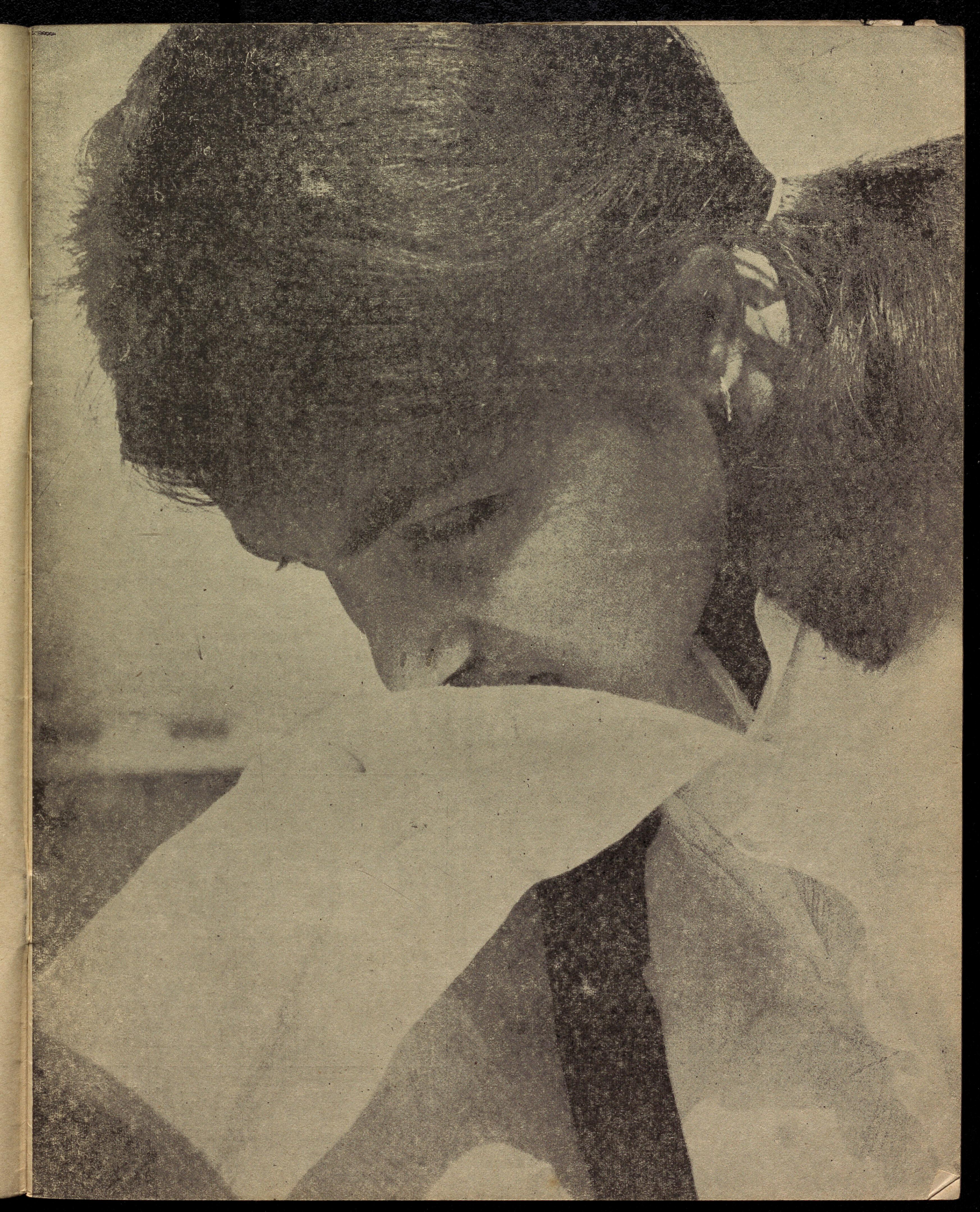
Health Education for Family Life

Health is basic for the happiness and welfare of a family and education for health is directed towards changing, modifying or reinforcing behaviour which will improve the health of the family members. Educational component of family health is the possession and use of latest knowledge for disease prevention and health promotion and for utilization of available services. This may involve changing of old customs or prejudices which at times may be quite difficult and even painful. It can also threaten vested interests. Health education for the family is therefore not a question of just giving information. It means:

- (a) knowing educational level of the family members and specific knowledge for a particular health condition by the family members;

The health problem in our country is a stupendous one. . . . In my view the first step is health education for children and also those adults who are in a position of authority over them. Elementary health rules including knowledge of nutrition, sanitation and physical culture should become part of one's normal education and should be put into practice in our daily lives.

—Indira Gandhi



- (b) identifying the existing beliefs and practices in respect of disease, causation and treatment and prejudices of family members against the modern methods of prevention or cure for a particular illness;
- (c) locating factors responsible for the existing behaviour of the family members to know why different people behave the way they do;
- (d) finding out the family members who make decisions in the area of food and nutrition or acceptance of medical or preventive services; and
- (e) knowing the persons outside the family whose advice is sought during illness of any of the family members.

In addition, information about the family occupation, income, place of residence, education, prestige and power, methods of entertainment, etc., all will help in indicating the life style of the family making it possible to describe the "family culture" as related to health and disease patterns.

On the basis of the above information it will be possible to decide about:

- (a) who needs to know what ;
- (b) how best can the knowledge be linked with the existing beliefs. The illiterate masses who form the bulk of our population have their own notions which the educated may consider primitive, about body functions, disease causation or prevention and food requirements. These ideas are real to him and form a part of his life. Any new idea, however scientific, thrust on him will be rejected if it does not fit into his pattern of concepts or daily practice. Such a person will outright reject information provided to him of virus causing small-pox when he has firm faith in its causation by the goddess. Conversion of such beliefs can only be done by long drawn out educational efforts starting from early age and not by imparting sporadic information to dispel superstitions ;

- (c) what are the best ways of reaching information to the various family members ;
- (d) what specific educational efforts need to be made to help the head of the family to make decisions in conformity with modern knowledge and facilities available for health care ;
- (e) what role can be played by other persons in the community who hold influence in the family ; and
- (f) how to provide a satisfied experience to the family members about new innovations in health.

Careful consideration of the above factors for devising a suitable educational methodology can ultimately lead to behavioural changes of the family members for a healthier living.

Who should do Health Education in the Family

Any person imparting health education must have faith in the people and in their inherent capacity to change. A large number of persons can effectively do health education in the family.

1. *Role of Parents* : Parents have the important responsibility and the best opportunity to teach the children about healthful living. This will depend upon what the parents know and do about health them-

Children have many needs. Above all, they need love and protection. But they also need more: the chance to learn useful skills, to develop talents and abilities, to prepare for the future.



selves. Habits related to diet, personal hygiene, rest, sleep, exercise and human relationship are all learnt by the children within the family and all this have a profound effect on their health. It has been said that "Home is the eternal school of life". The child learns his first health lesson in the home and starts living and sharing his qualities of love, affection truth, discipline, etc., with other members of the family. Things learnt at home become a part and parcel of the child's life throughout. The duty of the parents is to encourage and guide the natural instincts of the children for developing healthier habits. Education of the parents in the understanding and utilization of preventive and promotive services therefore is the responsibility of all those interested in providing better family health so that the children can learn about health in the natural family environment. The father's role in education needs to be specially mentioned as in our Indian society, father's habits and practices become the ideal for all the others to follow.

2. Role of the General Physician : In the general area of medicine, there is emerging slowly a shift of interest from the traditional area of emergency care for the acutely ill to prevention on the one hand and rehabilitation and long-term care of the chronic illness on the other. The concern of the general practitioner is of course care of the patient for prevention or early cure. This is only possible if the doctor has communicated to the patient and his family, the specific action including drug treatment which he should take in the hospital or at home. In certain cases, the doctor's advice has to enter the patient's living for the rest of his life. Education of the family is therefore of supreme importance. The family has to understand reasons why certain things are prescribed and others forbidden to the sick member. The physician is to be aware of the health education needs of the family and meet them adequately for a total care of any sickness. Education is usually neglected because it is not fully recognized or is considered too time-consuming. All cases of dysentery, malnutrition, maternal sickness who come to the doctors repeatedly are evidently a failure of health education in the family. All patients suffering from the same disease differ from one another widely in their family background, education, beliefs and understanding about the disease. Each has to be taught in a particular way and the style, medium and method has to be specific for each

patient. The educational treatment therefore has to be not only disease specific but also patient specific. The physician carries a unique faith in the patient and his family and can be the best educator in bringing about the behaviour change in all health matters.

3. Role of the Nurse and the General Health Worker: Nurses and other health workers who look after the health of the patients or families can also carry out health education effectively since they command the patient's faith and confidence. Such workers need to be equipped with knowledge and skills to diagnose educational problems of the family and to suitably treat them.

4. Role of the School Teacher : The teacher is the pivot for changing knowledge and behaviour of school children through education. By his own understanding and examples, the teacher happens to be the most appropriate person to set an example to the school children in the field of health. Syllabii on various aspects of health, nutrition and illness have been prepared by experts for all levels of education and teacher training. It is only a question of acquiring the interest and skills to teach them. Good health is basic for any learning by the children and the school and the teacher are the best institutions to teach modern know-how about health. A child having learnt will teach the other members of the family directly or indirectly. Singularly children should be the best change agents for modifying health behaviour. Nutrition, personal hygiene, immunization and early treatment can all be taught in a most meaningful and practical way in the school. A good school health education programme can improve child health, family health and community health.

The attack on ill-health in our country should start with efforts to improve health in the absence of disease, putting greater emphasis on education of every child and adult member of the family. No simple method can achieve results in the complex area of behaviour change. The educator who identifies himself with the family, who practises what he preaches, who has conviction in the method he uses and who believes that people can be changed through learning and by their own effort will succeed in changing health behaviour to the ultimate benefit of the family, community and the nation. □

FIGHTING PROTEIN HUNGER :

GLOBAL STRATEGY

C. SUBRAMANIAM

IT has been known for many years now that protein malnutrition is an important cause of infant and child mortality, stunted physical growth, low work output, pre-mature ageing and reduced life span in the developing world. Recent research has also revealed the strong possibility of a link between malnutrition and retarded mental development, the first few years of a child's life, and more particularly the first year, being the most crucial period in this respect. The widespread occurrence of protein malnutrition in many developing nations, hence, spells grave danger to the full expression of the genetic potential for physical and mental growth in large sections of the world community.

Malnutrition in many regions may not only be due to protein deficiency but might represent the cumulative end-result of several factors, such as, diets deficient in calories, proteins, vitamins and other nutrients, worm infection, large and closely spaced families, and inadequate purchasing power. In cereal-based diets, insufficient intake of calories may be the primary nutritional problem, while in starch-based diets such as that occurring in regions where cassava or banana is the staple food, protein deficiency *per se* may be equally important. Hence, preventive programmes must take into account the multi-faceted nature of this problem.

The First UN Development Decade of the 1960s has demonstrated that through the application of science and technology the productivity of basic food crops can be greatly enhanced. For the world as a whole, food production increased by three per cent in 1968, while population grew by two per cent. The FAO's index of *per capita* food production has risen steadily from 101 in 1957 to an estimated 111 in 1968. Great inequalities, however, exist in the

amounts of food available in different countries. For example, in developed countries the daily consumption of calories is about 3,150 and the daily protein-intake is about 90 grams. In several African countries like Nigeria and Ghana, the average intake of food per day is about two-thirds of this level while in the Far East, average food consumption is in some cases substantially more than in Africa (2,460 calories and 74.7 grams of protein per day in Japan) and in some cases substantially less (1,810 calories and 45.4 grams of protein per day in India). These figures of average consumption conceal large-scale inequalities among different sectors of the population with substantial poorer sections suffering a very much higher degree of malnutrition than can be inferred from the averages.

The possibilities for rapid agricultural advance implied in the popular epithet "Green Revolution" have raised hopes for banishing the insufficiency of calories and can extend this hope to protein, provided national governments take appropriate action to sustain the Green Revolution already initiated in cereals and extend it to other crops, more particularly to grain legumes, oilseeds, vegetables, fruit trees and feed and fodder crops. The poorer sections of the farming community have to be helped through appropriate credit and land reform policies to benefit from the fruits of the technological break-through. There are reasons to fear that an increase of prosperity concentrated in one section of a population may be followed by an increase in food consumption by the same people. Although fortunately prosperity does not seem to promote gluttony, there may be periods when rapid economic development in developing countries may worsen the plight of those at the bottom of the economic ladder. Hence, the proper management of the internal food economy is a matter to which attention should be paid.

National Policy for Nutrition

The development of sound national policies in nutrition is handicapped by the absence of adequate data to facilitate a system's approach. Yardsticks for continuing health have, to some extent, been empirical, since the problem of nutrition has not so far been studied as an integrated system, encompassing the complete food production and consumption chain as well as the cultural, social, commercial, economic and political factors affecting it. It must be admitted that we cannot afford to wait for the complete development of a system analytic model which may take several years. However, there is need to make a beginning straightaway on the development of such an approach so that meaningful guidelines of action could be evolved.

There is also need for quantitative age-independent indicators of early protein-calorie malnutrition. Several clinical signs have been indicated by WHO to detect protein-calorie malnutrition, but most of these have the disadvantage of being difficult to standardize and express quantitatively. Research on the standardization of reliable indices so as to facilitate the early detection and treatment of Kwashiorkor need to be intensified.

Estimates reveal that the frequency of severe or moderate protein-calorie malnutrition cases varies from four per cent to 52 per cent in developing countries. Doubts have been expressed whether in areas with rice or wheat as staple there is any protein gap or whether all protein needs would be met if the normal calorie requirements were fully supplied. It is, however, generally agreed that the underprivileged socio-economic groups within a country and young children who are the most vulnerable members within a family both suffer from inequalities in distribution of protein supplies. With limited funds and other resources, priority in national and international efforts needs to be given to nutritionally vulnerable groups—infants (1 to 12 months), young children (1 to 5 years) and pregnant and lactating mothers. Although protein malnutrition in older age groups is also undesirable and ought to be eliminated, the younger children need prior attention due to the largely irreversible nature of the damage caused by malnutrition at this developmental stage. The development of a global strategy for eliminating protein-calorie malnutrition in the

vulnerable sections of the population constitutes the most challenging and urgent task facing the world community.

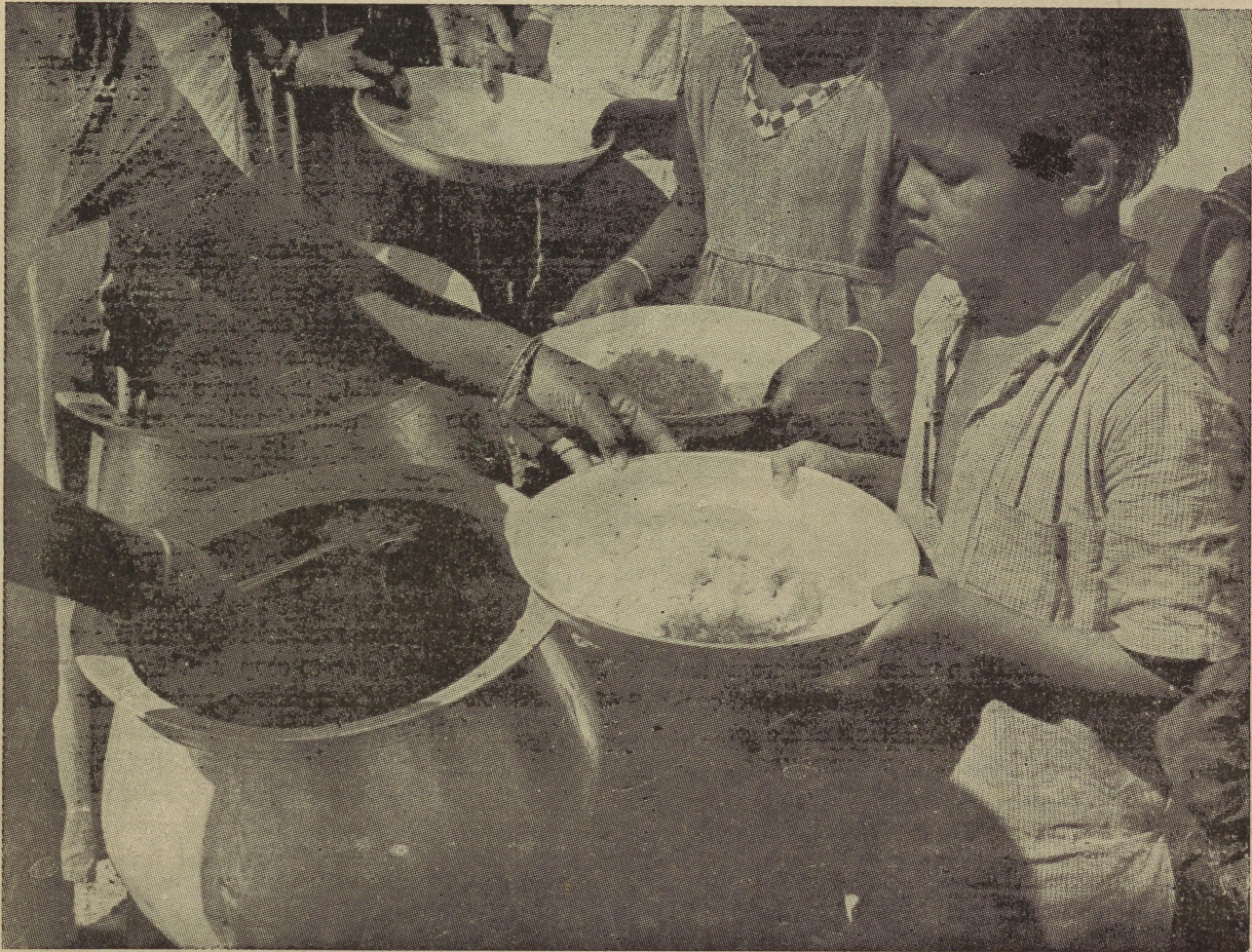
Nutritional Goals

Achieving satisfactory nutritional goals would be difficult in the absence of an improvement in family incomes upto minimum levels. This would in most countries imply radical changes in socio-economic conditions in order to achieve more equitable distribution of incomes and the removal of constraints imposed by culture or tradition which particularly affect the vulnerable groups.

Large regions of the world have entered a critical phase of sharply accelerated population explosion and in such areas, the problem for successful eradication of protein-calorie malnutrition through better rates of economic growth are crucially related to population trends. This applies to extensive areas of South Asia, China, North Africa and the Caribbean part of Latin America. Other regions including most parts of continental Latin America and West Asia are relatively sparsely populated but the exploitation of their natural resources will be a long-term and complex task. The possibilities opened up by recent advances in the agricultural and animal sciences for a speedy upgrading of nutritional standards thus vary widely in the developing world. With the rapid advances now taking place in preventive and curative medicine death rates will continue to decline. Hence a considerable restriction of the birth rate is the only foundation upon which the edifice of a balanced nutrition programme can be erected. At the same time a programme of nutritional improvement that helps to improve the survival rate among children and a programme for birth control can be mutually reinforcing since better prospects of survival of existing children can be a strong motivation for voluntary control of births.

Global Strategy

Global strategy for fighting protein hunger can only be sketched on outline since there is no single or simple solution to the complex problem of providing the required quantities of proteins of high biological value economically and in a form acceptable to the consumer. However, the following action programmes would constitute the major



School meal is being provided under the nutrition programme. The goal of each village is to see its children eating properly balanced health giving meals.

ingredients of the global strategy. Priorities will necessarily have to vary from country to country.

Firstly, efforts must be intensified to improve both the production and productivity of conventional plant, animal and fish resources of protein, to launch an effective war on waste and to develop and produce new sources of protein such as genetically high quality cereals like high lysine maize, millets and tubers and foods and beverages incorporating oilseed meals, leaf proteins, fish-protein concentrate, single cell protein or fortified cereals. Simultaneously, purposive action is called for to ensure a better utilization of the available food materials by reducing to the minimum the considerable wastage that now occurs at the stage

of harvesting of the grain, storage and transport at different stages and in processing the grain.

Secondly, much greater emphasis should be placed on improving the distribution and marketing of protein foods so as to assure a rise in consumption among the vulnerable sectors of the population.

Thirdly, appropriate research and training facilities must be established to build or strengthen the necessary institutional frame-work and provide the requisite technical education and training for the personnel needed to handle these problems.

Fourthly, suitable executive and coordinating agencies should be developed at the international and

national levels for evolving precise action plans and for assuring the deployment of adequate financial and technical resources to ensure successful implementation of the plans.

More work on the technological aspects, clinical testing as well as on cost-benefit relationships is needed on amino-acid fortification and production of various milk-like products. Fortification of commodities of common consumption (e.g. common salt) offers advantages which need to be explored. Oilseeds possess immense potential for increasing protein supplies, but fish protein concentrate and protein concentrates from cereals can also make a valuable contribution. If the oilseeds protein now harvested becomes available to humans, this will amount to 20 to 25 million tons of additional protein, a quantity equivalent to the present animal protein supply. Since a gradual diversion of animal feed to human food may take place as the need for low-cost protein grows it is important that high protein fodder crops are developed soon so as to serve as substitutes for concentrates. Research needs to be intensified on the improvement of the flavour and consumer-acceptability of fish protein concentrate, leaf proteins and other new sources of protein supply and on the safety of single cell protein. Technological aspects of improving the texture of protein beverages so as to permit higher protein concentrations also require attention.

Though the plant animal-man food chain is expensive and involves better management practices, the enhanced productivity associated with the "Green Revolution" offers scope for evolving alternative land use and crop use patterns. Also, in many areas of the world, ruminant husbandry is the most logical and in some cases the only feasible form of land use. Even non-descript cows yield more milk with better feeding and the key to achieving faster growth rates in animal productivity lies in improved nutrition. The development of protein rich fodder and feed-crops, hence, needs urgent attention. In some regions, as in parts of Africa, the control of diseases such as trypanosomiasis could lead to a great change in livestock economy. Integrated programmes involving genetic upgrading of animals, better feeding, improved management and veterinary services and better processing, storage and distribution procedures

need to be quickly developed and initiated in developing countries with appropriate international assistance. Similarly, there is great scope for improving fish catch and in countries like India the availability of fish at cheap prices could help to improve nutrition in a large section of the population.

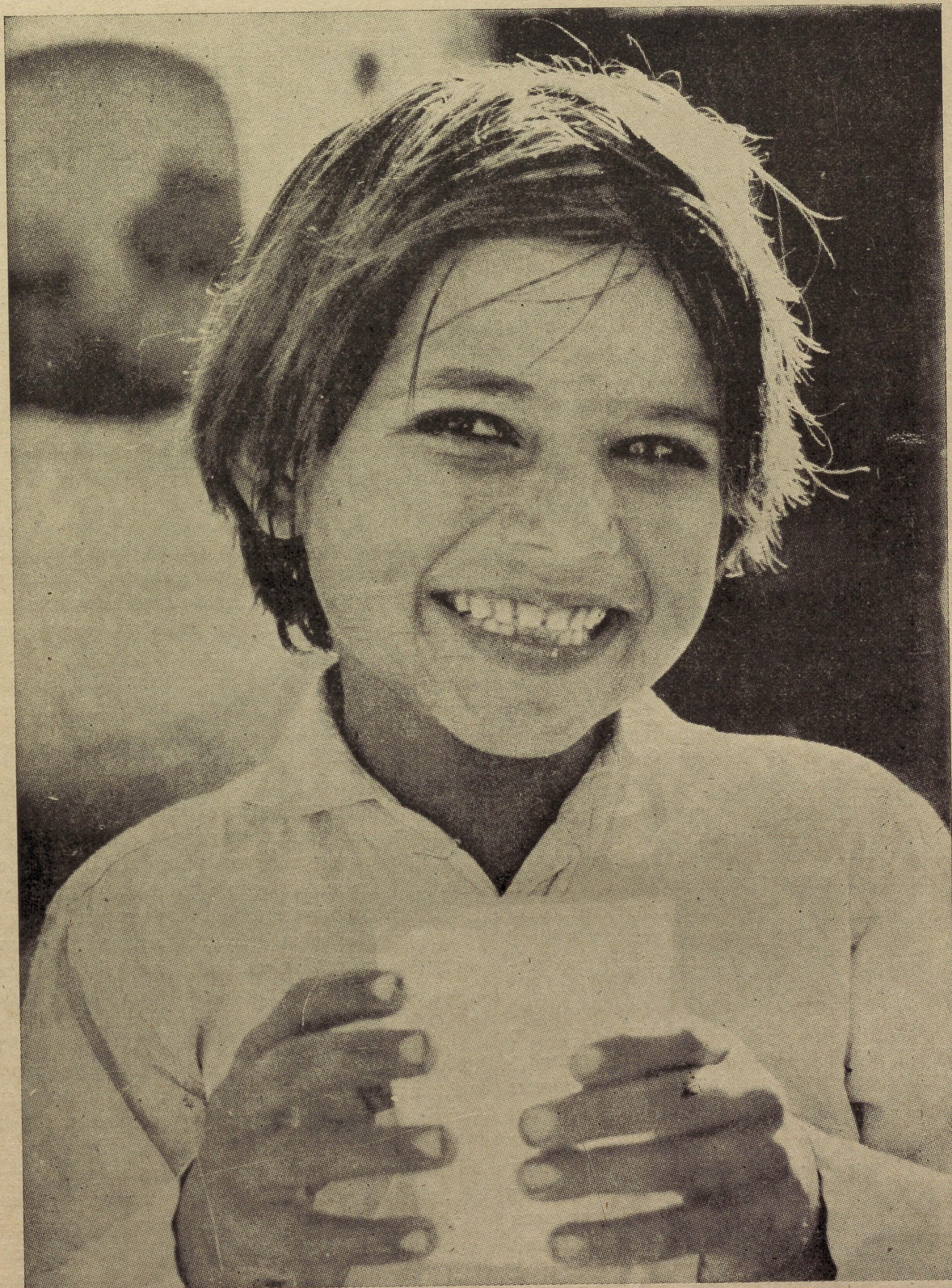
Nutritive Quality of Foodgrains

A major dent on the protein-malnutrition problem can be made quickly if the yield and nutritive quality of the basic foodgrains can be genetically upgraded, thereby enabling the improvement of the nutrition of the economically handicapped and vulnerable sections of the population without any special educational effort or added expense. Particular stress should be laid on exploiting synergistic interactions among components of food such as maize and pulse.

The specific approach towards protein improvement will vary from crop to crop and from region to region. Therefore, for each crop and situation, the precise problem will have to be identified and the scientific approach towards finding a solution developed. In many cereals and pulses, elevating the protein content *per se* has to be the primary aim. In several millets and cereals, current levels of net protein utilization are unsatisfactory not only due to the poor amino-acid balance but also due to low digestibility. There are several grain legumes like soyabean and chick pea, which have a high protein content but whose productivity needs to be improved by developing better plant types. The removal of toxic principles can render several legumes which are highly resistant to drought such as *Lathyrus sativus* (*Kesari Dal*), excellent food material.

The contribution of plant breeding towards improving protein supply could be broadly grouped into the following major approaches :

- (i) Development of high yielding-cum-high quality strains of cereals, millets and tuber crops.
- (ii) Improving the yield potential of grain legumes and increasing the content of methionine in them.
- (iii) Development of better quality vegetables and fruits.
- (iv) Development of high yielding-cum-high



Enough is as good as a feast.

quality fodder and feed crops which would be substitutes for concentrates so as to improve animal productivity.

- (v) Development of new protein-rich crops like Triticale and Gossypol-free cotton.

When such seeds are available they can be popularized through the organized production and distribution of nutritional seed kits.

Immediately, opportunities are available for increasing the quantity of proteins in cereals and millets through the application of appropriate fertilizer doses during grain development. Such agronomic enrichment of quality can become popular among farmers only if a suitable incentive like a premium for protein content is introduced in pricing policy. Such a measure in addition to changing market classification of grains on irrational criteria such as colour and lustre now prevalent in many areas of the developing world will serve as a powerful educational instrument for creating protein consciousness among farming families.

Feeding Programmes

The types of food that will have to be used for feeding young children and infants will naturally follow the local consumption habits and will vary from country to country depending upon the foods that can be made available locally for this purpose and the type of assistance that can be expected from the more fortunate countries. This will also depend upon the type of malnutrition that is prevalent in each country and consequently on the type of food that will have to be used for combating malnutrition.

Along with the feeding programme it will also be necessary to take up a fairly big programme to impart nutrition education. Any feeding programme can only be of short duration and, therefore, limited in scope. Ultimately, the improvement in nutrition will have to come about by teaching the people how to improve their diets using materials that are readily available and its effectiveness will also depend upon teaching the public the importance of nutrition and thereby arousing public consciousness to the need for dealing with this problem effectively. For this purpose, a massive and effective programme of nutri-

tion education will have to be started and this will also be one of the schemes for which a proper foundation will have to be laid during the preparatory period of the first few years. Importance should be attached to teaching principles of child feeding to expectant mothers particularly encouragement of breast feeding. In organizing such educational programmes we can draw on the valuable experience gained in running mother-craft centres in a number of countries where such centres have been useful to adopt an integrated approach in regard to family planning, health care and nutrition education.

The Strategy for the Seventies

What is necessary now is the evolution of a strategy to organize and coordinate the various activities to get the maximum benefit.

The first step is to identify our priorities. It would be, in my view, wasteful use of resources to spread them out on all sections of the protein hungry people of the world. Scientifically, we can broadly group the effects of malnutrition into : (a) irreversible, and (b) reversible categories. Obviously, it is the group exposed to irreversible damage that needs immediate attention and a properly planned programme of direct intervention. Seen in this light, the most vulnerable group comprises the infant, the nursing and the pregnant mother. Our efforts towards bridging the nutritional gap should be in the first instance concentrated on this section of the population. This would enable us to avoid the serious and what many regard as the irreversible damage to the intellectual and physical capacity of the emerging generation. Environmental sanitation, deworming and child health programmes should be introduced coincidentally with nutrition programmes.

Another important aspect of our strategy concerns the responsibility of society as a whole for the nutritional programme. From time immemorial, man has treated nutrition as the problem of the individual family. This was appropriate in an era when the pressure of population on the available nutritional resources was limited. Today, it is ironical that when society undertakes the responsibility of training the minds of the young, it abdicates the task of securing a properly developed brain and physique which alone can make this training worthwhile. Even as the com-

munity undertakes the expenditure and the effort for education it should also be responsible for the proper feeding of the pre-school children and the nursing and expectant mothers.

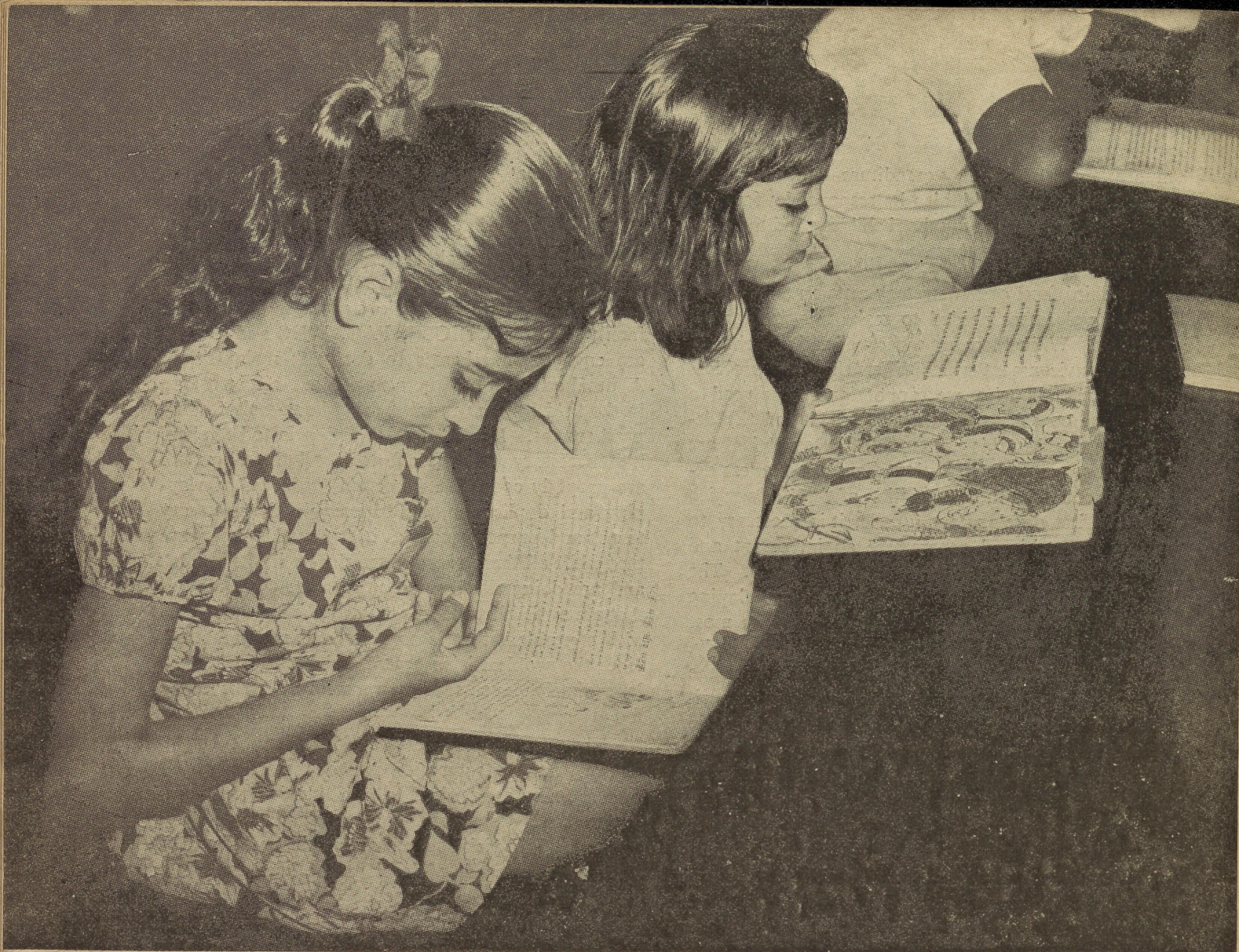
A third facet of our strategy rests on the international involvement needed to make this programme a success. While there are aspects of national character and environment which differentiate the problem of different countries, we cannot ignore the need to arouse the conscience of the developed and the developing world in this matter. If the seventies are to see a surge towards further growth in the less developed countries in continuation of the 1960s which was the first development decade, it is necessary to make the nutritional programme an important and integral element in the developmental goals. The international community has to spur the developing world to take interest in the nurturing of its most vital resources—the growing generation. Accordingly, aid policies of developed countries should attach the highest priority to the different aspects of the nutrition campaign and the goal of combating protein hunger. While one way of engaging promoting self-help in each of the developing countries would be to encourage them to impose a nutritional tax, the poverty of the developing countries makes it inevitable that significant aid transfers have initially to take place from the developed world if a programme of the requisite magnitude is to be mounted. Our immediate strategy should aim at carrying the surpluses of the affluent countries to the urgent need for protein food aid to the poorer nations. This, however, can be a only the short-run solution and ultimately every nation will have to work out its own programme on the basis of self-reliance. In fact, it should be part of the strategy from the very

beginning that nations should plan to phase out foreign aid for this purpose.

All this will need, not only an intensified and deliberate effort at each national level but will also need considerable cooperative effort in the international field. At present, various agencies of the UN family like the UNICEF, FAO, WHO and UNDP are engaged in schemes to deal with malnutrition. A number of voluntary agencies are also working in the field and are running fairly large-scale feeding programmes. But if effective action is to be taken, it is necessary that the efforts of all these agencies are properly coordinated not only to avoid overlapping and duplication, but to provide the necessary thrust and purposiveness. It has been the experience that while all these agencies are sincere in their efforts and are doing the best that they can, the resources that are available to them are hardly sufficient to deal with a problem that is so large and many faceted. Since the problem is so urgent and has to be tackled immediately, much more purposeful action is called for.

The current decade of the 1970s should focus attention on the emancipation of large masses of people who are now condemned to malnutrition and retardation arising from and confirming them in their poverty. This vicious circle should be broken. The sixties were a decade of development. May the seventies be identified as the decade in which we broke through the problem of protein hunger and malnutrition. If this is to succeed, the message will have to go down from the international community through the national authorities to the village level. Every organ of democratic administration will have to be involved in this task of protecting the children, the expectant and nursing mothers. □

Today's children will be our leaders in a few short years. Will they be wise, competent, constructive leaders? Or ineffective, unskilled burdens on society? This depends on the quality of education they have received. Tomorrow will be too late!



DEVELOPING YOUNG HUMAN RESOURCES

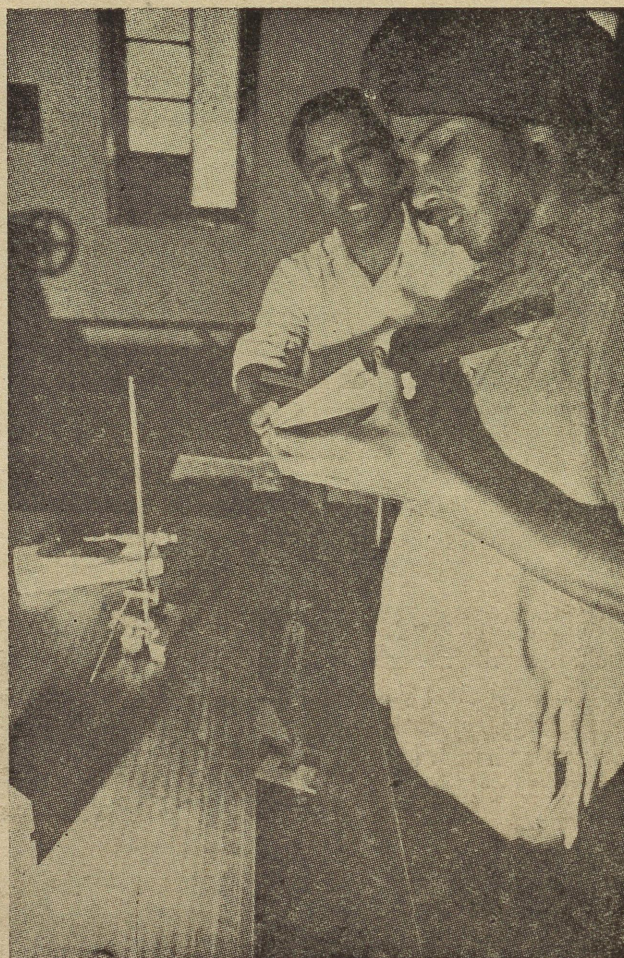
The most important element in human society is human resources. Protecting today's children, developing their abilities and guiding their characters, is society's most vital task. When there are not enough well-equipped schools to accommodate all children, or enough trained teachers to educate them well, the society is cheating its children—and itself, because without education children will never be able to make the valuable contributions to society they could make.



TAPPING THE POTENTIALITY OF YOUTH

N.K. SUNDARAM

IT is the youth of today's world who will take over the world of tomorrow. The key to national development therefore lies in the way education is provided to them. This has particular force in developing countries which cannot afford to ignore such human resource of the greatest potential, as the community of youth. Ever since Independence, the Five Year Plans on education have taken this into account. The resulting hunger for education at all levels is testified by the unprecedented expansion in the field of education at every stage. The number of educational institutions and their enrolments have grown to sizeable proportions. In the age-group 6—11, four children out of five are now at school as against one out of three in 1947. In the age-group 11—14, two out of four children are attending school as against one out of nine in 1947. The expansion at the secondary stage has been faster still and the enrolments at the secondary stage have increased from less than one million in 1947 to about seven million at present. The number of universities has increased from 19 to 78, the affiliated colleges from about 250 to about 3,000 and the enrolments from about 250 thousand to about 2.5 million. The percentage of the literacy in the population as a whole



...any reform in educational reconstruction would be robbed of all concrete effectiveness if problems generally and genuinely affecting our youth are not grappled with and satisfactorily resolved as a matter of high priority.

has increased from 14 to 35 and the total expenditure on education from all sources has increased from about Rs 600 million in 1947 to about Rs 9,000 million at present.

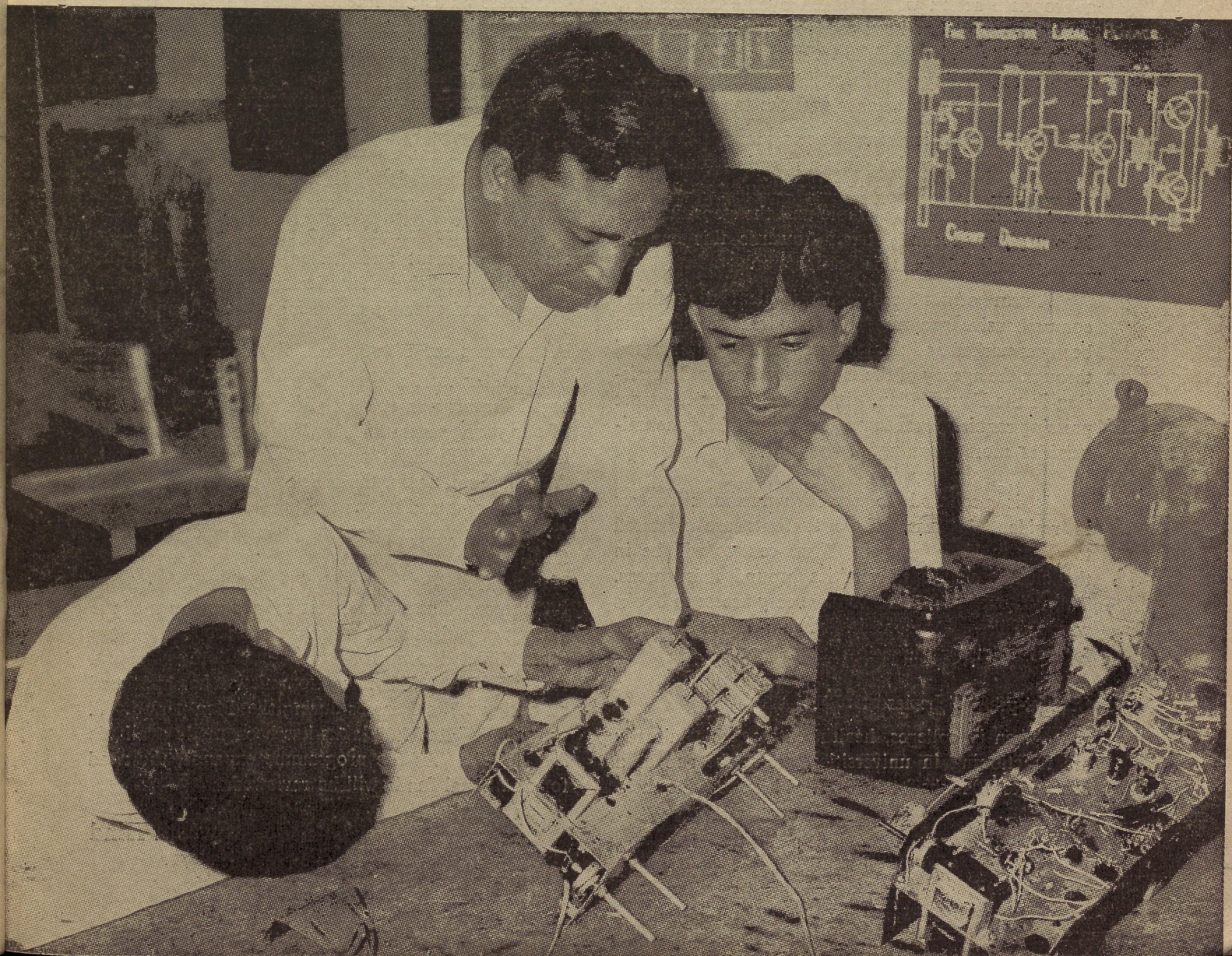
High Priority Tasks

Of course much remains to be done and financial resources are scarce. Here, however, the point to remember is that any reform in educational reconstruction would be robbed of all concrete effectiveness if problems generally and genuinely affecting our youth are not grappled with and satisfactorily resolved

as a matter of high priority. These problems go beyond those which are strictly educational. The Union Ministry of Education has accordingly contemplated and set afoot certain measures and reforms to meet these problems.

These measures and reforms have also been prompted by the fact that in a shrinking world where the frontiers of knowledge are ever expanding and barriers are fast breaking down and there is a universal demand for a more equitable distribution of the fruits of economic production, and the realization

To encourage the aesthetic, artistic and technical potentialities of the students, functional clubs and societies are being set up in the country.



for closer international cooperation and understanding, the world of youth represents manpower of the greatest potential and promise. If this potential is to be pressed into the service of a developing economy like ours to the country's long-term advantage, it is imperative that concrete steps should be taken to make the lives of our youth, both students and non-students, purposeful and constructive.

Student Participation

First priority has been given to the question of student participation in the academic process. The Ministry of Education and Youth Services has accordingly appointed a committee under the auspices of the University Grants Commission to work out the details of student participation in the councils of university administration. It is expected that appropriate action will be taken by the universities, after the report has been received and students will be enabled to derive the fullest advantages of the learning process, the joy of which will be partaken in partnership between the teacher and the taught.

It is not the learning process alone, important, as no doubt it is, which gives a meaning and a thrill to students. We have to enrich and enlarge the horizon of student life as a whole and the steps that the Ministry have recently taken towards this can be briefly outlined in this connection.

A sum of Rs 3 crores to implement a fairly comprehensive programme of student services has been earmarked and this programme is to be operated through the agency of the University Grants Commission in the Fourth Plan. It seeks to cover the most pressing requirements towards making life at the universities more meaningful.

It is proposed to establish textbook centres in residential areas, where students are clustered together in large groups. These centres will be in the charge of the universities around these areas. This will enable students to have easy access to books which they wish to consult. A sum of Rs 150 lakhs for 1970-71 is provided for this purpose.

Student-profit Schemes

Then in colleges, health centres, which already are functioning in universities, are to be run at a cost of Rs 70 lakhs for 1970-71. Next, with the help

of voluntary donations, book banks are to be installed in the various institutions. Sets of textbooks are to be given free of cost to students in indigent circumstances. These will be returned to the institutions after these students have completed using them. For 1970-71, a sum of Rs 52 lakhs is provided for this purpose. To encourage the aesthetic, artistic and technical potentialities of the students, functional clubs and societies are to be started and run with a provision of Rs 20 lakhs for the present year. Under this scheme, each club will receive about Rs 2,500. Again, travel grants are to be given to post-graduate students in mofussil areas to enable them to go to metropolitan areas or advanced seats of learning for research or for consultation. It is expected that Rs 8 lakhs will be spent on this scheme.

These plans are intended not only to make the academic side of a student's life meaningful but also to draw out his aesthetic and emotional potential and let it have full play. Debates, discussions and Sunday Clubs, in which students can give vent to their views and opinions and learn that the value of free speech and exchange of clashing and contrary ideas is enhanced, if it is not accompanied by unseemly demonstrations, are to be fostered.

The entire scheme is to be motivated towards student-enjoyment and student-profit, to make the community feel that the university is a portal, worth going to and spending some memorable time in.

Programmes for Non-Student Youths

Similar worthwhile programmes are also envisaged for our non-student youth who form the bulk of our young community and who do not enjoy even the limited facilities now open to student youths. Among them, again, the majority of such youths are in rural areas and unless their needs are catered to, any success we may achieve in respect of increased facilities for urban youth will have no meaning. A National Advisory Board for Youth has been constituted to coordinate and direct the programmes of the various organizations both at the Centre and in the States directed towards the welfare of both urban and rural youths. The Planning Commission has approved an outlay of Rs 5 crores during the Plan period. A provision of Rs 35.02 lakhs has been made available for 1970-71. As the programme expands, the need for additional funds will be reviewed.

Youth centres at district headquarters and block headquarters, will be established, as a preliminary measure with Central grants matched by local contributions. Such centres will be located in and around polytechnics in the urban areas. Playfields, gymnasias, open-air stadia and in some selected places, swimming pools will be provided and there will also be facilities for the improvement of the youth's literary and functional equipment.

Work-centres are to be established for unemployed youths who want to get training in craft and other technical skills. If there are graduates, they could get some work-experience in these centres.

There will be reception centres which will act as clearing house of information on job opportunities, etc.

Such reforms, supplementing the various programmes of educational reconstruction which are underway, will serve to harness the energies of our youth in a constructive manner and enable them to equip themselves for tasks of national advance. To the extent that these reforms are effectively implemented in the years to come will assure not only the welfare of our young, but also the progress of the country as a whole; as this will mean effective use of the available manpower in a developing economy.

DIPLOMA COURSE IN HEALTH EDUCATION

PROF. A.K. KISKU, Union Deputy Minister for Health and Family Planning, inaugurated the Diploma Course in Health Education being organized by the Central Health Education Bureau (CHEB) under the auspices of the Delhi University. This is the third Diploma Course in the country, the other two being conducted by the Universities of Calcutta and Madurai at the All India Institute of Hygiene and Public Health, Calcutta and Gandhigram Institute for Rural Health and Family Planning respectively.

Prof. Kisku said that health education was "the vital bridge that spans the gulf between new knowledge gained from technological and medical advances and its adoption in practice by the people".

He added that health programme has to contend with certain wrong health beliefs, attitudes, values and practices that persist among the people and make efforts to change them to desirable ones.

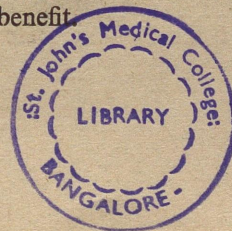
The Deputy Minister said that for changing health behaviour of the people it was essential that health extension workers secure basic knowledge, skills and techniques necessary to arouse interest, develop understanding and foster values in the people. This he said was being provided by the Diploma Course.

Prof. Kisku emphasized the need for pre-service training in health education which was to be provided to young university graduates who may take up health education as a career. Prof. Kisku commended the pioneering work of the CHEB in organizing in-service training programme in health education. He said that the Bureau had trained over 500 district health extension/education workers, mass education and information officers in its different courses.

He appealed to the candidates taking up the course to be dedicated to their work which alone can bring rich dividend and profound sense of fulfilment. "Your subject is health and your laboratory is people. You have to plan with the people, work for the people and indeed work with them."

Earlier Dr J.B. Shrivastav, Director General of Health Services, welcomed the invitees and said that health education had grown from its childhood to adulthood and in its own right the Bureau is aiming to become a National Institute of Health Education.

Dr B.S. Sehgal, Director, CHEB, explained the purpose of the Diploma Course. He said it was essential that people's participation was secured in the implementation of the health programmes which are meant for their own benefit.



VOCATION is a certain kind of work. Vocational guidance is thus an advice on the choice of work. When related to the world of work the effort to offer vocational guidance is to "put the right man in the right place". The central figure is the person who is to perform tasks as a responsible citizen. He has no reservations as regards status of a particular occupation. According to the Ginzberg choices of a child before 11 years are "fantasy choices". He further says that from 11 years to 17 years the choices are "tentative". We are thus in a position to clearly understand that the vocational guidance as is normally understood is not meant for a child. He should be allowed to understand things and objects in as free an atmosphere as the society can afford.

while to assess our clientele. We are living in democracy where we are pledged to provide equal opportunities to all. Our children belong to different economic and social groups. Individual differences also count a lot in the development of a child. Parental attitude is yet another major factor that plays its part in the making of the citizen of tomorrow. "The hand that rocks the cradle, rules the world", is as true today as it was when it was said. The child develops in the lap of the mother and grows under the loving care of the father. Their attitudes, therefore, count a lot in the future lives of children. Parents, in general, provide over-protection to the first child. In our country this situation is a bit more complicated. Female child is not very much wanted.

VOCATIONAL GUIDANCE

K.R.SUNDA

True education includes fostering of values. This is not just the schools job. Children learn all day long from all the things they see and hear. Parents, therefore, play a key role in preparing them for tomorrow.

However, the parents must help the child in all the difficulties of conduct and behaviour.

Observation and Experience

Man learns by observation and experience. Since we are to deal with the child, occupational knowledge by experience will surely dwarf his growth. Occupational information, therefore, is the answer as that will unfold to him 'What', 'How' and 'Why' of things. This information will create a desire in the mind of the child to understand what a particular occupation means to the individual and the society. This information coupled with his achievements in the field of general education and sports, should form the basis in the process of career planning at a later stage. That stage will demand from us how best to integrate our youth in a world of fast changing economic and technical development.

What constitutes occupational information and how to impart it to the children, it would be worth-

Parents grumble the moment the nurse announces that the new born baby is a female. Some parents are over-demanding. They have their own values of life. They expect the child to grow in a particular way; often the opposite way the child is likely to grow. There are neglected children. It happens in cases where the number of children in the family is larger than the parental income can support.

Sensitive Mind

The mind of a child is very sensitive. It is as sensitive as human hair to the electrically charged rod. A slightest change in the parental behaviour towards children sets in motion strong currents of emotional disturbances. More often than not such children make friends with others. They communicate their confidence with those strangers who are tied up to their families for reasons other than love. Such ex-communication has spoiled many a responsible child. Parents are, therefore, well advised

to devote greater attention to the children. There should not be an iota of discrimination or neglect towards their children by words or deed.

We have children who are over-protected. We have children who are neglected. We have parents who are over demanding. We have children who come from affluent sections of society. We have children who live under appalling poverty conditions. We have children, in substantial numbers, who suffer from various physical and mental ailments. We have children who happen to get better company despite their adversity and *vice versa*. The psychological, physiological and sociological problems of all our children continue to cut across each other. These and a host of other conditions and influences acting and reacting on our children have to be kept in mind by those who attempt to handle the subject of occupational information for children. They have to be careful. There would be no imposition of choice on the child. As far as possible social demands should not outweigh his aptitude, interests and abilities. He should be encouraged to do positive thinking and rewarded for his achievements. No effort should be spared to correct his conduct.

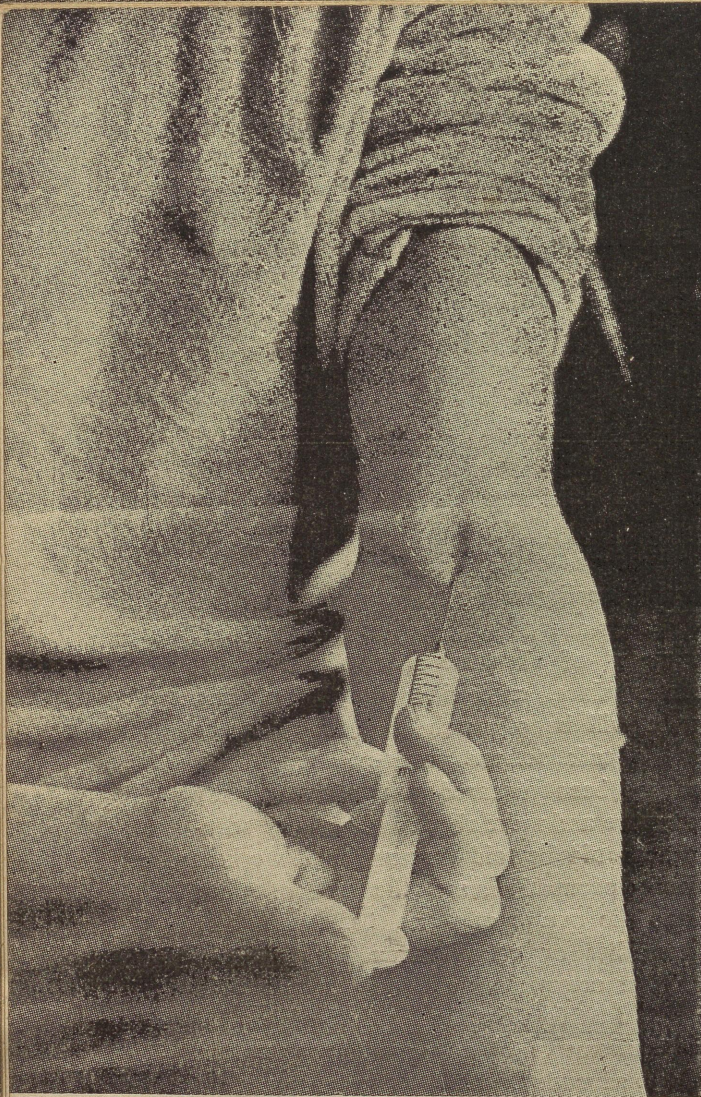
Occupational Information

By the time a child starts going to school, he starts learning and forming impressions about jobs. He adopts certain attitude about work. He has all the praise for the gardener who tends the flower beds. Sometimes he offers a helping hand and tries to dig earth with a shovel. He helps the mother to carry milk bottles to the kitchen. He tries his hand on the broom to clean the room, arrange books and put flower pot at proper places. He has no prejudices or preferences for this or that work. Every item of work is important for him. He is obliged to the gardener who puts a flower in his button-hole as much as to the doctor who saves his life from severe attack of abdominal pain. He is grateful to the mother who takes care for his food and clothing as much as the tailor. This is the stage when he should be encouraged to investigate jobs. What is this or that should be replied both at home and in the school. He will enquire for whom a particular thing is meant. It should be explained that this toy is meant for him; that stick for the Grand Pa and that prayer book for the Grand Ma. His further

query as to why he needs a toy, the Grand Pa a stick and the Grand Ma a prayer book should be replied to. He needs a toy because he would play with it. Grand Pa needs a stick to get support in walking and Grand Ma needs a prayer book to say her prayers. He becomes aware that things and objects serve one or the other cause, need or a purpose. Thus he will naturally come to a point of occupational appraisal when he enquires as to who does it. At this point the counsellor should start explaining workers in various fields. Efforts should be made to help him know theoretically as well as visually as many occupations in the locality as possible. He should be shown round the places of work and explained 'what', 'why' and 'how' of all these occupations. Visits to the market place, exhibition, zoo, offices and establishments will be of much help. He may be encouraged to talk to the workers. When this background has been prepared your client is ready for learning more and more about the world of occupations. He should be told the number of workers in a particular occupation, and the kind of work being done. The nature of work, *i.e.*, seasonal or perennial, whether opportunities are shrinking or expanding, what occupations are coming up, should be explained. At this point he should be informed about the requirements of a particular occupation in terms of age, education, training, physique, attitude of the worker. What time does it take to qualify a particular job and how to get it should be explained. He should be informed about the service conditions, duty hours, wages, rest and holidays, timings, other facilities like housing, medical, pension or gratuity and chances of promotion. These things will be best illustrated through personal talk with new entrants those who have spent some years in that occupation and those who have retired.

An important thing in this process is as to who should discharge this responsibility. At home the child is under the care of the parents. Outside the house most of his time is spent under the care of the teacher. Both these institutions, *i.e.*, home and school, are the ideal places for this purpose. Parents should exchange their ideas about the child with the teacher. Similarly the teacher should be trained in the technique of guidance. The school cannot remain

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DRUGS AND YOUTH

D. LAKSHMINARAYAN

The problems that today's youth face are in themselves not very new. But what causes concern is that the potential human resources are being gradually swayed and inducted into a way of life, wherein violence is preached, instant relief from anxiety and joy is promised through drugs and where established modes and values are questioned and defied.

'STUDENTS on the rampage', 'College closed indefinitely due to violence', examinations postponed', train held up by mob,' drug taking on the increase among students'—these are some of the headlines we often come across these days in newspapers and magazines received from different parts of the globe. This tendency among the younger generation to turn violent and take law into their own hands has set parents, teachers and governments thinking on the possible reasons. Sociologists and psychologists are particularly concerned over the increasing recourse that boys and even girls—especially of the teenage group—are taking to the use of drugs and narcotics in their bid to express dissent and anger or to remain free and act free. Even though drug taking is more prevalent in the developed countries of the West, its prevalence in developing countries, including India, has been reported and with the progress of time, chances of its spreading cannot be ruled out due to a number of factors.

Adolescence—the span of life between twelve and twenty—is a stage known for its impatience, wild dreams, intolerance, passion and vigour. In fact, every individual experiences changes in himself/herself during this period and not all are able to adjust well to these changes. Adolescents undoubtedly are basically healthy. Yet they face a number of health and other problems, peculiar to them. To quote a WHO report, "the illness of members of this age group have received considerable medical attention for many years in many countries, but physicians as a whole have not given adolescents the care that they have given to children and adults. Medical students and physicians have been taught less about adolescents than about other age groups, less research has been carried out on their disorders and fewer facilities have been provided for their care."

Apart from the health care that is necessary for any age group it has now been well established that other equally important pre-requisites for a harmo-

nious growth and development of the human personality are sound familial relationships, good environment and opportunities and facilities to devote oneself to constructive work. The problems that today's youth face are in themselves not very new. But what causes concern is that as a way to get over these problems, the potential human resources are being gradually swayed and inducted into a way of life, wherein violence is preached, instant relief from anxiety and joy is promised through drugs and where established modes and values are questioned and defied. These developments hold threat to the growth of young men and women as responsible understanding adults.

The Changing Society

The transformation of society due to industrialization and growing urbanization itself has in a way contributed to the present phenomenon. The traditional family system with its ties and controls is breaking up. The modern civilization has made life more comfortable and quick. The standards of nutrition, medicine and hygiene have generally risen. Educational facilities too have improved, though classrooms are overcrowded and teacher-student communication is less frequent.

Mass production of goods and improved marketing techniques, coupled with increased exposure to new products through the mass media have made many new things accessible and within easy reach of the people, including the youth. Social values too have undergone changes and there is a growing tendency for a life which is less strenuous, more glamorous and pleasure oriented. Religious beliefs are more questioned today than followed. Then there are increasing conflicts between older and younger generations and these produce tension, anxiety and suppression of self. All these factors together contribute to make today's youth, particularly those in the impressionable group—to pursue a path full of promises of pleasure, freedom of worries and above all, something novel.

Drug intake is but one of the pursuits being followed by the younger generation. Most adolescents give curiosity as the main reason for experimenting with drugs. Others claim that they take drugs in an effort to rid themselves of shyness. Some more take it to be accepted in the adult group while a few

others use drugs for sexual stimulation, mystical experiences or even to defy laws and express hostility.

Use of drugs is certainly not a new phenomenon. Throughout history, societies have been using various drugs, mostly for getting relief from pain and to reduce suffering. Clinical experience over the years have proved their usefulness. Indeed, they are now essential commodities, they save lives and one cannot put off their use. But the very technological advances in drug preparations and supply are being utilized to prepare a category which are purely meant for stimulation, excitement and which gradually overpower the user. Herein lies the danger, the need for check and moderation and urgency of taking measures to control the spread of this habit.

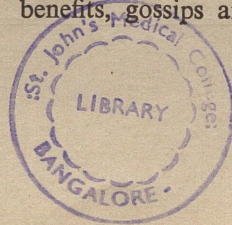
To become dependent on drug for stimulation, joy, excitement and mysticism is bad enough, but the problem causing greater concern is the frenzy of violence, defiance of authority which seem to be associated with people habituated to drugs. Drug addiction itself may not be illness, but it may lead to illness, and at that stage, the doctor has to provide the remedy.

Drug Dependence

Drug dependence has been described by Dr D. Cameron in *World Health* (April 1971) as "a state, psychic and sometimes also physical, resulting from the interaction between a living organism and a drug, characterized by behavioural and other responses that always include a compulsion to take the drug on a continuous or periodic basis in order to experience its psychic effects, and sometimes to avoid the discomfort of its absence".

Almost all the drugs commonly used are for psychic dependence though a few also produce physical stimulation. The drugs are morphine type (narcotics—opium, heroin, codein), cocaine (from coca bush), amphetamines (synthetic, not derived from coca), hallucinogenic cactus (mescaline peyote), cannabis (marihuana, hashish), LSD (synthetic derived from fungus on grain), and alcohol.

Drug intake may not be a pleasant affair to start with, but the novice continues his experiment because he knows that many regular users do get pleasure or some satisfaction out of it. Most of his information is based on literature claiming the benefits, gossips and activities of his group.



Having once tried a drug, an adolescent may be tempted to continue with the experiment. It is possible the person goes on trying the intake till such time when he undergoes a real experience or just goes off to sleep. If the first dose or the first provocation to experiment happens to be as a member of a group, and this is generally the case among adolescents, the acceptor feels bound to continue in order to gain or keep the approval of his associates.

An interesting factor in drug dependence is how a particular society views this practice. In communities where drug taking is socially accepted, moderate use of drugs tends to be in operation. At the same time, if the users are very many and attitudes are not that well pronounced, a significant proportion of people become dependent. Where drug taking is not culturally accepted, the use tends to be excessive though not widely prevalent in its population. Over and above these factors, what prompts most youngsters to experiment with drugs is the manner of presenting their potentialities of new experiences.

Who are Susceptible ?

Which category of boys and girls are most susceptible to fall a prey to the lure of drugs ? A Swiss psychiatrist Professor Kielholz, has said in a report on 'Drug abuse and addiction in Switzerland' that the personality structure of young people, susceptible to drug taking, is practically the same. A great majority of young addicts show tendencies of over sensitiveness, reservations and are usually spoilt. Upto sixty per cent are extremely moody, inhibited, insecure or feel inadequate in some way. They have no aims in life and a wide gap exists between ability and desire. The lack of a fixed way of life and a need to work leads to tension that the young try to escape.

It is a matter of regret, he adds, the very way to supposed freedom always ends in complete dependence on the drug.

A research group of the Institute of Forensic and Social Medicine at Berlin University has come to the conclusion after conducting of a two year investigation on 237 people, that, among other things, young people want better insight into people through narcotics. They also want to widen their experience. Many of the dependents feel 'hemmed in' and restricted and consider the drugs as providing the best method to 'break out'.

It is under certain conditions that drug taking and dependence on it becomes a regularity. Just as diagnosis of a sick man is made before putting him on to some particular treatment, so also people with this habit have to be treated and cured. The aim should be to permit a person to lead as normal a life as possible despite his weakness and make him able to support himself and retain self-respect. In England and the United States, for example, some patients are prescribed certain drugs, to which they had been addicted, and watched on their reaction. Here the yardstick for success is whether the person is able to function better and whether he feels more satisfied this way than was the case when he got drugs from under the table.

With a proper approach to the problem of drug dependence and the factors contributing to it, steps can be taken to counteract the claims of benefits from drug taking. Mass media and extension work can greatly contribute to repudiate these claims. Equally important is to find out and check the supply and distribution of these drugs.

In the context of world situation, the problem may not appear to be of much consequence in India. Admittedly, it can be viewed as but one factor of modern society. But what is of consequence to India at present is the proper grooming of its vast human resources, because it is ultimately the people, especially the youth, who are the key to national progress, in the years to come. □

Young people are not only more vulnerable than adults, but their entire lives can be seriously jeopardized by diseases or lacks suffered during their early years. It is ignorance, above all, which prevents them from truly participating in the development of the community to which they belong.—*Pierre Zumbach, Secretary General of the International Union for Child Welfare.*

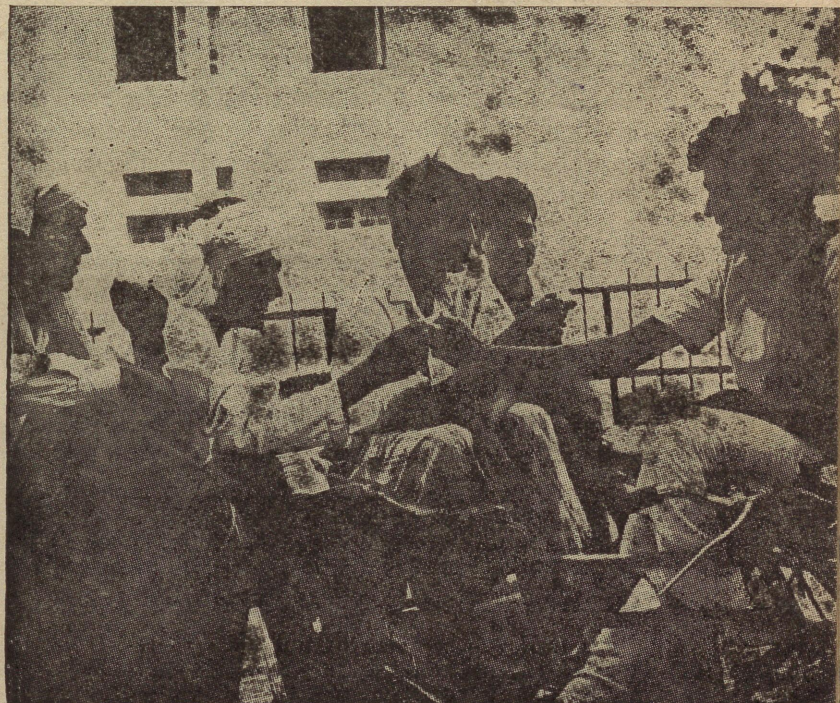
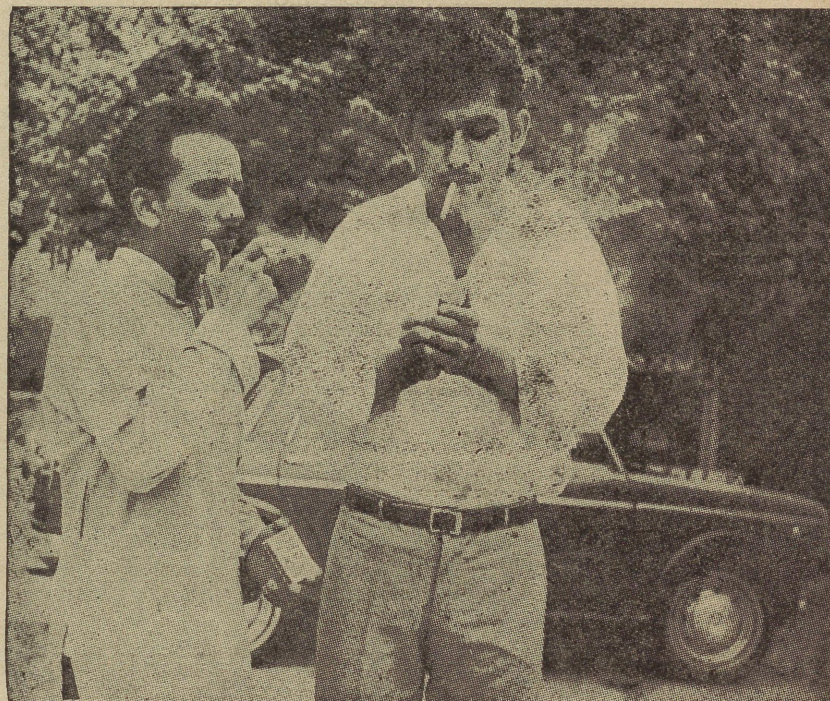
TO SMOKE OR NOT TO SMOKE?

M. L. MEHTA

LISTEN to the comments of the teenagers in the coffee house, discotheque, and campus on smoking: "I just do not want to be a mere number," "I want to be in the 'in' crowd", "It makes me look mod", "I want to have a social crutch". These remarks of the teenagers are a sad commentary on the smoking habit in spite of the much discussed health hazards of smoking.

In the United Kingdom alone, 20,000 deaths, particularly among men, between 35—64 years of age each year are attributed to smoking, according to a Committee of the Royal College of Physicians.

Cigarette smoking does not spare the young. If you are not so lucky, you may experience some unpleasant cough. It may handicap you from entering into competitive sports. As a general rule athletes do not smoke. This indicates that these problems can hit you right now—while you are still in the teens—and increase your chances of having disabling illnesses like heart disease in your later life. Scientific studies reveal that adults who started smoking at the earliest age have the highest death rate as well as the most causes of diseases relating to the heart blood vessels. The death rate was highest among those who started before 15. People who smoke



Smoking is a habit often with no particular feeling. Some have smoked so long and keep on doing it out of habit.

cigarettes spend 17 per cent more days ill than those who never smoke.

But why do people smoke? Psychologists have tried to find an answer to this question. A large number of people—men, women and children—smoke for pleasure, relaxation, relief from tension or a sense of security. In adolescents, it may indicate freedom to do as one pleases or it may be a reaction against adult authority or a fashionable habit. Some people say that they like the sight, smell and taste of tobacco smoke. As for non-smokers, the reasons given are religious conviction, lack of desire to smoke, expense and harmful effects.

What is Smoke?

When you light a cigarette, the smoke that issues is a mixture of gases, predominantly carbon-dioxide, various vaporized chemicals and millions of minute particles of ash and other solids. During smoking, these are drawn into your nose and throat and into the lungs by inhalation. The smoke inhaled includes some vaporized nicotine, a toxic substance found in tobacco and also certain coal-tar products.

Cigarettes and General Health

Doctors have found that smoking of cigarettes is a danger to health. It has been proved that tobacco smoking, particularly cigarette smoking, shortens life-expectancy.

The most important of the diseases caused by cigarette smoking are : ischaemic heart disease, lung cancer, chronic bronchitis, and emphysema. In fact, these diseases are the major causes of death. Cigarette smoking also causes widespread and distressing disability from chest and heart diseases and increases the mortality and disability from several other conditions.

Lung Cancer

Statistics from various countries, including India reveal that cigarette smoking leads to cancer of the lung. In fact, the more the number of cigarettes you smoke and the longer you smoke them, the greater the risk. On the other hand, studies show that in those who stop smoking, the risk of lung cancer decreases directly with the length of time they have stopped smoking.

It has also been found that the combined group of pipe, cigar and *beedi* smokers run lesser risk of lung cancer. But they are more prone to cancers of the lip, tongue and mouth than non-smokers.

Cigarette smoke paralyses the tiny hair which line the bronchial tubes, that sweep foreign particles out of lungs. Without this protective action, healthy lung tissue can be injured even destroyed by particles which remain in the lung.

Bronchitis and Emphysema

Cigarette smoking is a most important predisposing cause of chronic bronchitis and emphysema. Many surveys in different countries have revealed that the prevalence of cough and expectoration in both men and women is closely related to the number of cigarettes smoked. These symptoms usually abate rapidly in those who stopped smoking.

Bronchitis is an inflammation of the air tubes. In chronic bronchitis, there is a continuous inflammation of the lining of the air tubes. There is excessive phlegm in bronchitis. Increased coughing brings up the phlegm. The deep coughing and thick mucus may make it difficult to breathe. And, cigarette smoking is an important cause of chronic bronchitis.

Emphysema is an over-inflation of tissues with air or gas. The term is used mainly for over-inflated lungs. Considerable evidence is available that proves that emphysema can be caused by cigarette smoking. Smoking can also aggravate existing emphysema.

Ischaemic Heart Disease

This is a condition in which heart muscle receives less blood supply through coronary arteries. Smoking affects the heart and the blood vessels. Nicotine, if injected, or drawn through tobacco smoke, stimulates that part of the nervous system which controls the heart, blood vessels and other internal organs which function almost automatically.

Smokers die more often from coronary heart disease. Mortality from ischaemic heart disease is greater in cigarette smokers than in non-smokers. It increases with more cigarettes smoked. It is lower in cigarette smokers who stop smoking than in those who continue.



Some smoke to reduce tension and use cigarettes to help them cope with their problems.

Among the younger smokers, the risk of death is two to three times more than among non-smokers. In older smokers, the risk is 50 per cent more than in non-smokers.

Peptic (Stomach) Ulcer

Tobacco smoke again has demonstrable reaction in your stomach and intestines. Effects of smoking on the healing of stomach ulcer show that it increases the pain and the size of the ulcer. Patients who smoke show a poor response to the treatment.

In cigarette smokers the death rate from peptic ulcers increases three-fold or four-fold as compared with non-smokers.

Smoking in Pregnancy

Smoking of cigarettes does not spare even the expectant mothers. She may endanger her child by smoking during pregnancy. Babies born to women who smoke during pregnancy are, on the average, 150—240 g. lighter than those of non-smokers.

Risk to the foetus from a mother who smokes may be even more serious. The risk to babies of mothers who smoke during pregnancy increases by two times. They may be still-born or die soon after birth or there may be abortion. In fact, one in five babies lost may be saved if their mothers had not smoked.

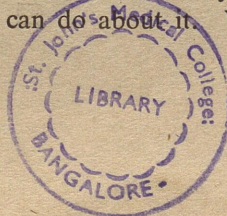
Weigh Your Facts

These facts indicate that we have a great advantage today. People in the past smoked before the harmful evidence about cigarettes was known. Doctors tell us that every cigarette smoker is affected in some way by this habit—though not to the same degree.

Teenagers especially may ask themselves : “Does it put you in the ‘in’ crowd ?” There is so much more to becoming part of the “in” crowd—your personality, abilities and the individuality. For instance, if you look around you find many leaders who are non-smokers. They are not afraid to act on their own, nor do they need cigarettes as their status symbol or social crutch. Do you ?

Even if you have started smoking you can still quit. If you let the habit really hook you, quitting will be much harder.

You have only one life. There is so much you can do about it. Why blow it—in smoke ?



SMALL FAMILY FOR HAPPY CHILD

(Contd. from page 312)

and frustrations from which the world suffers today are the result of a maladjusted childhood. Thus, in the promotion of small family and family planning lies the promise of an overall improvement in the social health of the people.

There are several other inter-related factors in the world, today which go to make family planning a must for us. Population explosion and regional imbalances in the population pressures resulting in great disparities of economic opportunity are compelling factors in our adoption of family planning. Yet ultimately it is the individual's own concept of happiness that dominates his decision-making process. This happiness comes mostly from the home. And no home is or can be happy unless children in the home are happy. Small family is, thus the only sure guarantee of looking to all-round happiness of children. □

VOCATIONAL GUIDANCE

(Contd. from page 333)

an isolated identity in this process. It has to prepare children in meeting the ever changing demands of the society. The agencies and individuals engaged in the field of vocational guidance should assist the parents and the teacher. Only a combined and concerted effort of the society will help to secure for us and our children a better, happy and prosperous future.

We have an obligation to provide our children with the means necessary for their development to meet the challenges of the future. We should discharge this obligation willingly, smilingly and with determination. We think of the better future. We yearn to see our future generations prosper, flourish and develop. Yet we invest very little in terms of money and material. □

INVESTMENT FOR FUTURE

THE world has learned a good deal under the harsh discipline of trial and error. In particular, it has begun to realize that modernization will not succeed unless it is based on the younger generation ; that it will surely fail unless governments look upon children as a resource which, if properly developed, will speed the process of modernization. The health and education of children and youth must not be regarded as just a charge on a nation's present ; they must be understood as an indispensable investment in the nation's future.

Statistics make it clear why the role of children and youth in the struggle for modernization will become an increasingly important one. By 1980, there will be more than 1.3 billion children in the developing countries. Already 40 per cent of the population of the developing countries is under the age of 15; and, in many countries, more than half the population is under the age of 20. By 1985, these young people and those to be born in the next fifteen years, will make up close to 70 per cent of the people in the developing world. Thus, children—children now alive, children yet to be born will decide the future of modernization.

Conscious of this, the General Assembly in adopting an International Development Strategy for the Second Development Decade has said "developing countries will adopt suitable national policies for involving children and youth in the development process and for ensuring that their needs are met in an integrated manner" that "it is essential...to expand and improve facilities for education, health, nutrition..."; that "the well being of children should be fostered"; and that "the full participation of youth in the development process should be ensured". These are goals for a Decade but their implementation must start now.—*Henry R. Labouisse, Executive Director of the United Nations Children' Fund.*

CONJUNCTIVITIS

Causes and Prevention

DR. MADAN MOHAN

CONJUNCTIVITIS or Ophthalmia is called sore eyes or red eyes (*Ankhe Uth Aye*) in popular language. Conjunctiva is a thin transparent membrane which lines innerside of both the lids and is reflected on to the eye ball to cover the white (*sclera*) of the eye. The conjunctiva has a few fine blood vessels and its main function is to help in the protection of the eye ball and to keep its surface clean and wet. Nature has provided adequate protection for the eye. The conjunctiva is sterile at birth, but a few non-pathogenic organisms are known to grow later in the conjunctival sac. Lacrimal or tear secretion helps to keep the conjunctiva clean and sterile by virtue of an enzyme called 'lysozyme'.

A case of acute epidemic conjunctivitis showing marked swelling of the right eye lid.

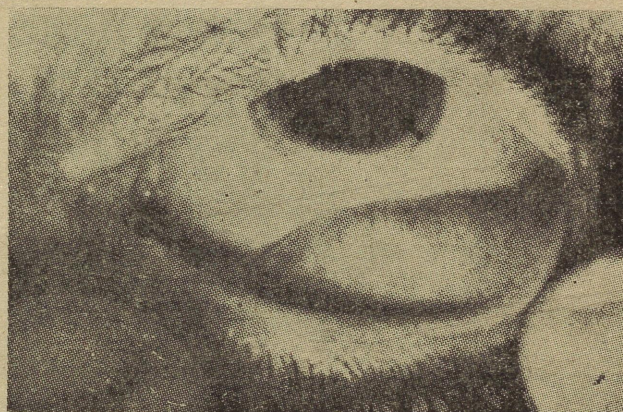


Photo shows everted upper lid. The conjunctiva is seen covering the white of the eye and the innerside of the lid.

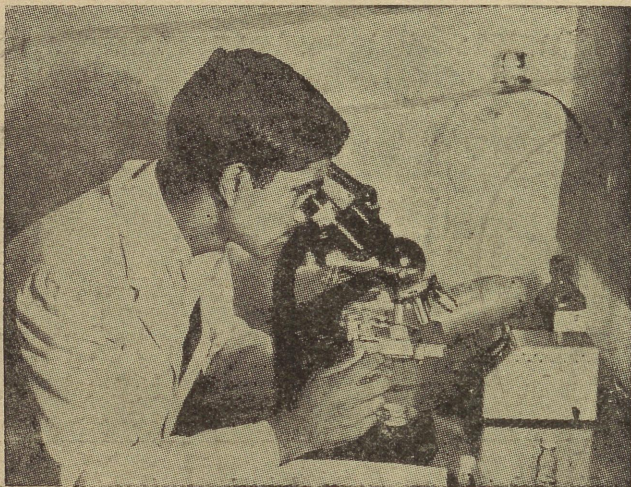
Inflammation of this thin membranous conjunctiva is called conjunctivitis in medical terms. It may have an acute rapid course when it causes marked congestion (redness), watering, thick whitish discharge and swelling of the lids or it may have a chronic progressive course (trachoma) with symptoms of grittiness, watering and a mild discomfort.

Causes of Conjunctivitis

There are three important causes of conjunctivitis with special clinical features.

1. Infective conjunctivitis is caused by infection with bacteria, viruses, fungi or other organisms.
2. Allergic conjunctivitis is caused by Pollen's vegetable and animal proteins, certain drugs, cosmetics, etc., or it may sometimes be due to endogenous causes.
3. Non-specific conjunctivitis is caused by dust, bright sunlight (ultraviolet rays), irritating gases, smoke, etc.

Infective conjunctivitis is the common variety of conjunctival inflammation. Over fifty per cent of patients attending any eye hospital in India suffer from this disease. It is responsible for a majority of cases of blindness particularly among children. The inflammation may extend and produce corneal



Laboratory tests being conducted to study the cause of conjunctivitis.

ulcer resulting in corneal opacity or even total loss of eye. It usually affects individuals but sometimes may spread in the community and persist in an endemic form. Some conjunctivitis are known to occur in an epidemic form spreading from place to place and affecting large population.

Acute Epidemic Conjunctivitis

Epidemic conjunctivitis are known to occur in different parts of the world. They are caused by certain organism and are often associated with other general system involvement, e.g., influenza. The current epidemic of conjunctivitis in India started possibly in Bombay during May, 1971 and has spread to Delhi and various other States. There is evidence to believe that the current epidemic is not bacterial in origin like most of the earlier epidemics reported in literature. The laboratory research has sufficient data to prove virus as the causative agent of this epidemic conjunctivitis. It possibly belongs to the group of adenoviruses. Clinically it manifests marked inflammatory reaction resulting in swelling of the lids, conjunctiva and lymph gland. It is believed to have affected 20 to 50 per cent of the population in the areas where it has spread. It largely affects the young and middle aged persons and is comparatively rare in young children and old people. Men are more commonly affected than women, possibly due to more chances of their exposure to infection. Hot humid climate seems to help the growth and spread of the virus and it is likely that the epidemic may end with the end of the monsoon season and change in the day's temperature. The disease is extremely contagious in nature. The infection spreads directly or indirectly from one patient to the other. The spread is largely air-borne and may be acquired through contaminated handkerchiefs, towels, spectacle and other articles. Usually inflammation of one eye occurs first. The involvement of the second eye occurs 1-2 days later due to the spread of the infection from the other eye.

Symptoms

The patient in the initial stages complains of grittiness, slight watering and feeling of discomfort. The condition gets worse in 12 to 24 hours with the appearance of congestion redness and edema (chemosis of the conjunctiva), swelling of the lids and profuse watering and mild discharge from the eyes. Some patients complain of a pre-auricular pain and running

Swasth Hind

of the nose. A few cases may develop copious whitish discharge and stickiness of the lashes. The disease usually runs a course of two to five days of acute symptoms and gradually subsides in about seven to twelve days. Examination of the conjunctiva reveals chemosis and characteristic small petechial haemorrhages (small red areas). Fortunately the disease does not affect the cornea unless secondary infection occurs.

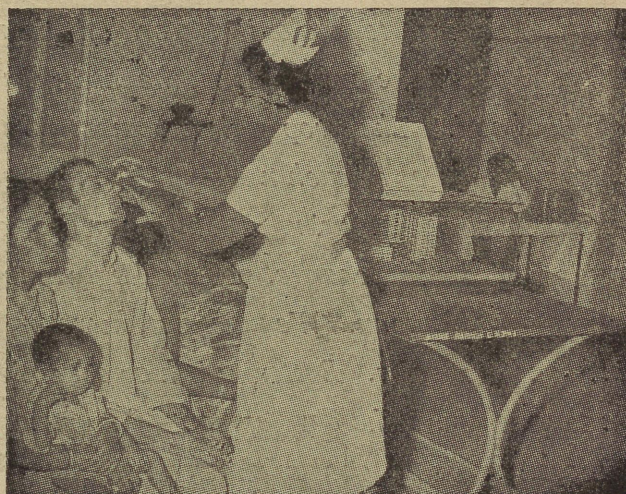
Certain other serious eye diseases such as acute glaucoma, acute Irido-cyclitis and Keratitis may simulate the clinical picture of this epidemic conjunctivitis. It is, therefore, very essential that patient should consult an ophthalmologist to rule out these other blinding diseases, before the treatment is started by the patient himself.

Many drugs have been tried for the treatment of this epidemic conjunctivitis but none ensures a complete and early cure. Most medicines that have been used help to relieve the congestion and watering and reduce the discomfort of the patient.

Protective Measures

In the absence of a good curative agent against this virus no drug can be said to have a preventive or even protective effect against this infection. The following measures are suggested for protection against this infection.

- Avoid going to crowded places.
- Avoid swimming in public swimming pools.
- Use protective glasses preferably with sides covered.
- Avoid eye make-up and cosmetics like *kajal*, etc.



Patients of epidemic conjunctivitis getting treatment at Dr Rajendra Prasad Centre's Hospital, A.I.I.M.S. New Delhi.

- Wash hands and face with soap and water at least twice a day.
- Use clean handkerchief for cleaning the eyes.
- Do not use common towels, soap, pillow, etc.
- If some one in the family has developed this disease, he should live in a separate room and use separate linen which should be separately washed and sterilized in boiling water.
- Do not use the same medicine bottle used by other patient.
- Consult the doctor at the onset of the disease.

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Editor
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In the modern, technological world, it is not enough to have the technical "know-how". Most vital are the motivations, the attitudes and the work habits formed in the early hours of childhood. The proper development of the child can determine the productiveness of human resources of each nation. It is now generally accepted that development is "growth" plus "change" preparing a child for life means not only helping him to grow, but also equipping him for change. Accordingly the child is not only the "object" but also the "agent" of the plan. We must not, however, think of human resources development entirely in economic terms. Better health or education in addition to increasing output are desirable in themselves. The development of human beings is means to development and, at the same time, the primary goal of development.

—Henry R. Labouisse
UNICEF Executive Director

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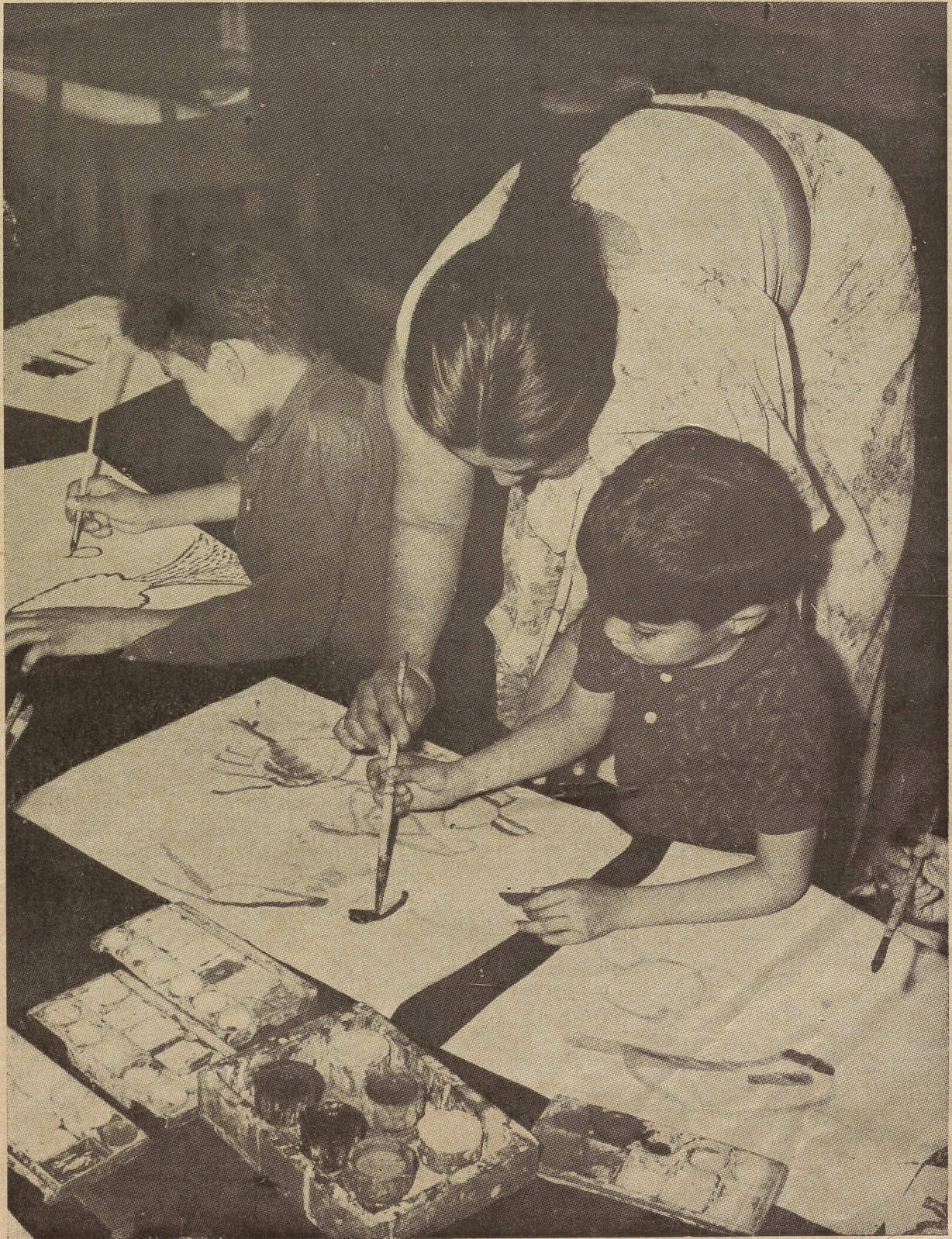
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