

# swasth hind

FEBRUARY 1983

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- o Tobacco smoking and our health
  - o Care of the aged
  - o Yoga for keeping fit in the old age
  - o Development and environment
  - o Diarrhoeal diseases and their control
  - o Energy requirements and recommended allowances
  - o World Assembly on Ageing
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# swasth hind

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February 1983  
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## READERS WRITE

I had an opportunity to read a few old issues of 'Swasth Hind'.

I found the journal highly informative and useful.

**P. Purushotham**

CMA Wing-6  
Indian Institute of Management  
Vastrapur, Ahmedabad-380 015.

I am a IIIrd Year MBBS Student studying in the KEM Hospital, Bombay. While I was in the library I casually had a look at your magazine and was struck with surprise to see that the magazine cost was only 25 paise. Imagining it to be an interesting magazine I took a look inside and found the contents worth reading. Topics relevant to India which one does not read in foreign text books were very well given.

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# TOBACCO SMOKING AND OUR HEALTH

DR D. B. BISHT

**T**HE tale of tobacco is not only a tale of transitory human pleasure leading to addiction, life long misery and often premature death, but interwoven in this tale are the tales of human intrigue, corporate power, exploitation and international and national hypocrisy.

It was Cristopher Columbus (1451—1506), Italian Navigator, who first saw some Cuban natives smoking their pipes. However, in those civilizations the practice was perhaps confined to socio-cultural rituals and sometimes it was used to ward off certain illnesses.

In the 16th century, Jean Nicot, the French Ambassador to Lisbon, sent ground tobacco powder to the Queen of France for the treatment of her migraine. And the active ingredient of tobacco, 'Nicotine' is known after him.

The story of Sir Walter Raleigh, (1552—1618). English soldier, the favourite of Queen Elizabeth, who popularized smoking in Britain, is well known; and perhaps he was the first victim of smoking when King James beheaded him. King James himself is credited for the famous description of smoking as—

“a custom loathsome to the eye  
hateful to the nose  
harmful to the brain  
and dangerous to the lungs”.

And yet, during the epidemic of plague in London, school boys at Eton had to smoke every morning to ward off plague.

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Smoking has been rightly named as a modern “Captain of Death” particularly in the western Countries.

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Use of tobacco in different forms has depended largely on the fashions of the day. For example, during the eighteenth century, the snuff almost replaced pipe and it was not uncommon to find delicately decorated snuff boxes adorning the pockets and purses of princes, priests, and pirates.

It was during the Mughal times that 'Hooka' and 'Chilum' became the chief status symbol of the high society and which to even this day decorate the houses of *Zamindars* and the *ex-chowdhris* of rural India.

However, the harmful effects of smoking became apparent centuries back. Ramazzani, the famous Italian physician, who is rightly known as father of occupational health, warned the nation about the health hazards of smoking by identifying higher morbidity and mortality amongst the factory workers who were smokers. Unfortunately, his observations and recommendations were set aside by those who wielded social, economic and political power and perhaps this frustration led him to say that “sweet smell of gain makes the smell of tobacco less perceptible”. Alas! this fact holds good even today.

It was the nineteenth century which saw the emergence of cigarettes as the main form of smoking. Perhaps the greatest boost to cigarette smoking was given

by the heroes and heroines of Hollywood. Humphry Bogert could not have been the ideal hero of many unless he showed himself on the screen the way he smoked a cigarette dangling between his lips. That he died of esophageal cancer, as a result of smoking, did not make any difference to the people.

It has now been well established that smoking and use of tobacco is responsible for a very large amount of human misery. Today the world produces about four trillions of cigarettes and the smokers spend 700 billions of rupees, *i.e.*, seventyfive thousand crores of rupees, which incidently is more than the entire lay-out of our national Sixth Five Year Plan. Many of the tobacco companies no doubt are earning more profits.

#### **Harmful effects**

Let me briefly enumerate the harmful effects of tobacco smoking.

1. It is known that a smoker has far lesser chances of enjoying a good health and often dying prematurely as compared to a non-smoker. It is estimated that when a young man starts smoking at the age of 25 years—he shortens his life by approximately 8 years at the age of sixtyfive.

2. Smoking is responsible for the crippling disease, such as chronic bronchitis and lung cancer.

3. Smoking is responsible for the vast increase in the cardiac deaths due to coronary heart diseases.

4. Tobacco is mostly responsible for the cancer of mouth, the commonest cancer in our country.

5. It has been found that cancers of all types taken together are more common amongst smokers.

6. Smoking vastly increases the vascular complications in women, particularly those who are on contraceptive pills.

7. It has been found that smoking during pregnancy causes lower birth weight of the newborn and increased infantile mortality.

8. In certain occupations like mining, farming and in factories where fumes are produced, smoking either precipitates or promotes the occupational pulmonary diseases.

Smoking has been rightly named as modern 'Captain of Death' particularly in the western countries.

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## SMOKING AND HEALTH IN INDIA

India is the third biggest producer of tobacco in the world, with 80 per cent of the tobacco grown being consumed locally, mostly in traditional form (bidi, hookah, *chutta*, etc.). Tobacco chewing and the taking of snuff are also practised.

According to recent estimates, 80 thousand million cigarettes and 675 thousand million bidis are produced annually. The number of cigarettes produced per adult, which was 100 in 1950, rose to 190 in 1970 and remained at around that level in the 1970s. The number of bidis produced per adult, around 1000 in 1950, suddenly increased to 1500 in 1976-77.

In the rural areas, various indigenous forms of smoking are practised. Cigarette smoking tends to predominate in the cities, particularly among white-collar workers. Urban blue-collar workers usually smoke bidis, although the younger ones prefer cigarettes. In men, the proportion of smokers shows both occupational and regional variation. Generally speaking, women do not smoke except in the lower socioeconomic group. More than a third of male smokers take to smoking before age 20.

Cigarette and bidi manufacturers advertise their products vigorously.

Governmental action for smoking control comprises:

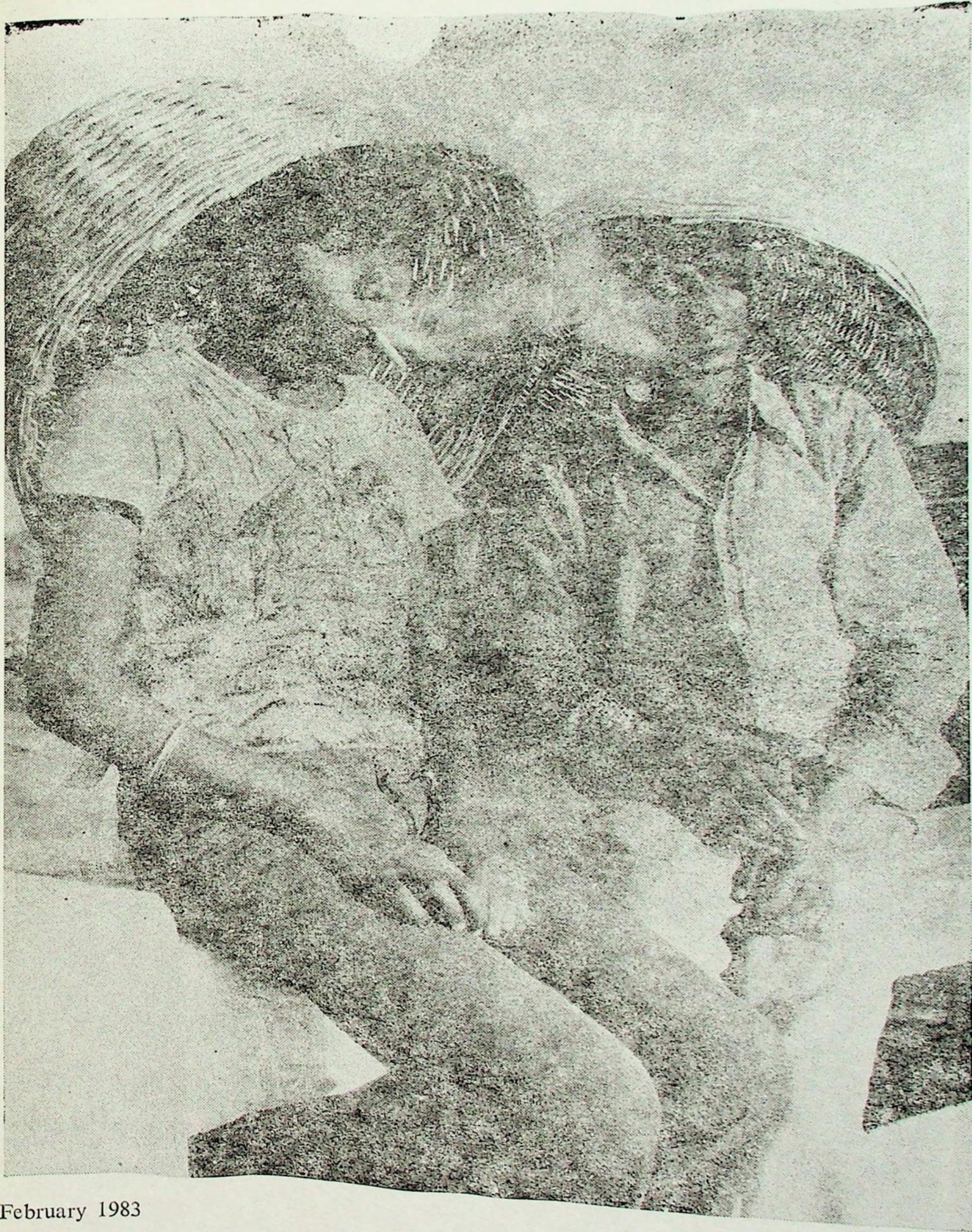
- legislation making health warnings compulsory on all cigarette packets
- prohibition of smoking in buses, theatres, and cinemas
- ban on juvenile smoking in some States.

From : *Smoking and Health in Asia*,  
WHO Chronicle, 36 (4) : 156-159  
(1982).

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*These young boys don't seem to be aware of the fact that smoking and use of tobacco is not only responsible for a large amount of misery but may also lead to crippling diseases like chronic bronchitis and lung cancer.—>*

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February 1983

## Harmful substances

At this stage perhaps we may ask—what is it in tobacco that is responsible for so many diseases? Tobacco leaf has about 1400 known chemical ingredients. However, the harmful substances can be broadly classified into three groups.

1. Toxic substances in the tobacco smoke which have the capacity of either initiating or promoting cancer or both. These are mostly confined to the tar portion of the smoke.

2. Irritant gases which are mostly oxides of carbon, nitrogen, hydrogen, and cyanide. Carbon-monoxide is the most important of these.

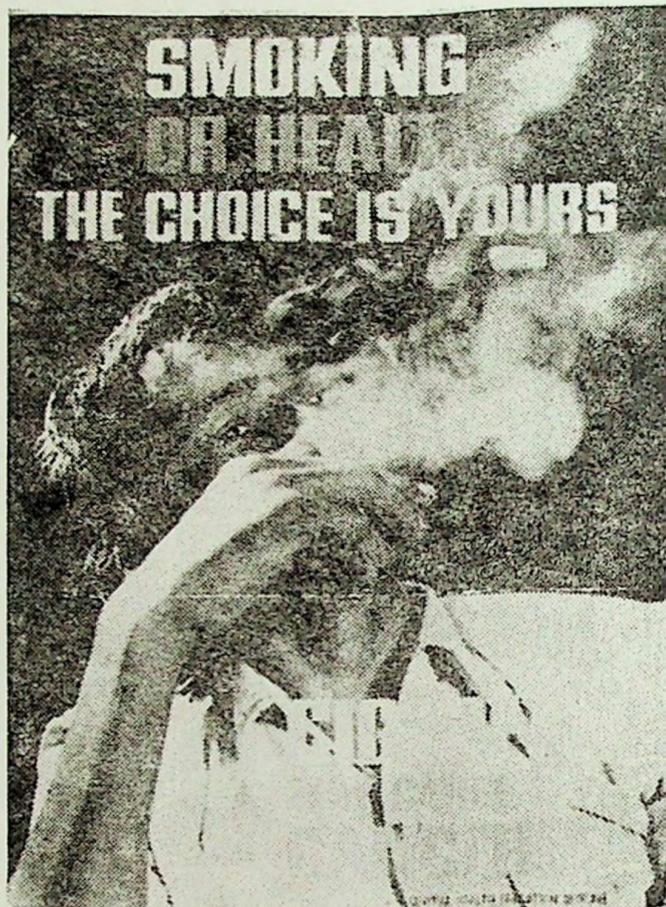
3. Nicotine—this has most profound effect on brain and blood vessels and perhaps it is this substance which leads to dependence and addiction.

The contents of the individual substances largely depends upon the tobacco leaf and on the process of curing the tobacco.

Having realized that high tar and high nicotine are responsible for the higher morbidity due to tobacco smoking, many countries, particularly in the West, have legislations wherein only low tar or low nicotine cigarettes are allowed to be manufactured and marketed.

Having realized that tobacco is the 'Captain of Death' and that the tobacco companies which promote smoking are the 'Merchants of Death', the World Health Organization had put its recommendations to various national governments both the developed and developing countries.

The 4th World Congress of Smoking and Health was held in Stockholm in June 1979. It was attended by delegates from sixtyeight countries. It was at this conference a clearer picture of smoking pattern as it exists in the world had emerged. It was identified that in developed countries various measures like education, legislations and a change in social and cultural behaviour of communities have contained the rising trend in the number of persons who smoked and the amount of smoking. In India about 75 per cent of the men in the North as well as South East region were found to smoke. In the West however, only 50 per cent smoked. The form of smoking varied in each area. The North preferred *chilum* and *hookah* while South East *chutta* and the West *bidi* (World smoking and health Vol. 5 No. 1).



*Media can play an important role in educating the community on the harmful effects of smoking.*

Unfortunately in the developing countries, smoking habit was galloping at a very rapid rate. The young and the student communities in the developing countries of Asia and Africa together with the new-rich are increasingly taking to smoking cigarettes. Besides, more and more females the world over are falling victims to this disastrous habit. There is a great need, therefore, to contain and curtail this evil spreading in an epidemic form.

In India, we have made it mandatory on the part of cigarette manufacturers to print the Statutory Warning: 'Cigarette smoking is injurious to health'. This is also to be printed along with the advertisements and depicted in the hoardings.

### How to tackle the problem

The question arises—how should we proceed in this direction?

*(continued on page 60)*

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# CARE OF THE AGED

DR B. C. GHOSAL

As many of the ailments of old age develop during earlier life, it is possible, by health education, to eliminate such risks to health as alcohol abuse, smoking, lack of exercise and a badly balanced diet. Information on health is especially necessary as people prepare for retirement. Besides helping the aged to overcome the enforced idleness that gives rise to so many health problems, this kind of preparation can also prevent domestic accidents, which are so common among old people and which can be serious.

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**W**ITH the increase in average expectation of life and improvement in the standard of living, the number of old persons is increasing in India and the world. Ageing is not simply a physical process but a state of mind and today we are witnessing a beginning of change all over the world in that state of mind.

More and more people are living into the old age. The numbers are not reflected in life expectancy figures because of the large mortality in middle age, but those who reach 65 or 70 are much more likely than they were to live on into the eighties and nineties. Those who require long-term care are predominantly female; the female-male ratio being of the order of 3 : 1. There are two main reasons for this. First, women live longer than men, childbirth has now become safe. Secondly, it is still usual for women to marry men who are older than themselves and this was even more pronounced fifty years ago, when the present generation of old people married. As a result, widows greatly outnumber widowers and are left to live without the support of a spouse.

In the present set up of family situation, children are reluctant to look after their ageing parents. The respect for parents has diminished. While it is true that modern society and culture pay scant homage to age, there seems to be little evidence that children are, in fact, less willing to accept the burden of caring for ageing parents. Other changes in our society have diminished the likelihood that they will be able to do so.

## Multiple problems

Not only is the size of families smaller but the number of unmarried children, especially daughters, is much less. Furthermore, the chance that children will continue to live near their parents has diminished.

The problems of old age tend to be multiple rather than single. Reduced morbidity due to osteoarthritis, or to more easily remediable disorders such as corns and bunions coupled with failing sight and hearing, transform minor tasks such as housework and shopping into major undertakings. Falls are no longer trivial accidents but likely to lead, especially in women, to broken wrists and more seriously, broken hips. Social contacts are diminished, in part by not being able to get about, but also by the death and enfeeblement of contemporaries. Paradoxically, those who are becoming deaf are often intolerant of noise, and failing sight may make reading either difficult or impossible.

Leaving aside physical diseases, such as failing hearts, chronic chest disease, enlarged prostates and cancer, the most serious problem of age is failing mental powers. Some degree of failure of memory, especially for recent happenings is almost universal.

## Role of health education

Because many of the ailments of old age develop during earlier life, it is possible, by health education, to eliminate such risks to health as alcohol abuse, smoking, lack of exercise and a badly balanced diet. Information on health is especially necessary as people prepare for retirement. Besides helping the aged to overcome the enforced idleness that gives rise to so many health problems, this kind of preparation can also prevent domestic accidents, which are so common among old people and which can be serious.

In terms of useful medical intervention the routine visiting of the elderly is difficult to justify. While it is

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*Regular physical check up is essential for prevention and early diagnosis of many diseases of old age.*

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true that most of these patients, are on some sort of continued treatment with drugs, the doctor's meeting were not primarily concerned with their diseases or their treatment.

Nonetheless, the relationship was valued by the doctors as well as the patients and seemed to make a real contribution to the quality of their life. Doctor-patient relationship is to be a personal transaction, rather than impersonal exchange.

Old people, like children, are ill-equipped to deal with the unknown and feel threatened by strangers. Doctors have the advantage that they are seen by their patients as having a right to intimacy because they are vested with authority to a degree not shared by nurses or social workers. Doctors grow old alongside their patients and older doctors have older patients; young doctors are seldom acceptable on the same terms as their seniors to the elderly.

No matter what sacrifices families are prepared to make, no matter how sophisticated the community care services are or how caring the neighbours are as increasingly large number of the elderly require long stay institutional care. This still remains only a small proportion of all old people. Providing the full range of community service-home helps, home nursing, meals-on-wheels, laundry and occasional transport to hospitals, day centres can prove to be extremely expensive.

### Hospital services

Many old people may require admission to hospital, most of them for relatively acute conditions. The elderly tend to stay longer in hospitals, in part because of the nature of their diseases, and in part because so many of them live alone or with aged spouses who cannot accept them home to convalesce. As a result, many hospital units which are busy may be very reluctant to admit the elderly. The old are seen as not requiring the high technical skills which are available, as being incurable, and therefore more a burden than a challenge, and a 'blocking' beds which can be used for more important and valuable purposes. In relative terms of number who require long-term care is small but because each of them may require care for years rather than days, the impact on services is quite disproportionately large and is growing.

Largely because of the reluctance of most doctors to become involved with the long term care of the incurable and old, geriatrics has emerged as a speciality.

The problems of old age are different chiefly because they are so often multiple and because of the importance of social factors in determining management. Most acute illness in old people which needs hospital admission is dealt with not by geriatricians, but by appropriate specialists. Once the operations or investigations have been completed and the crisis has passed, geriatricians tend to become involved, not to exercise their medical skills but to facilitate arrangements for continuing care.

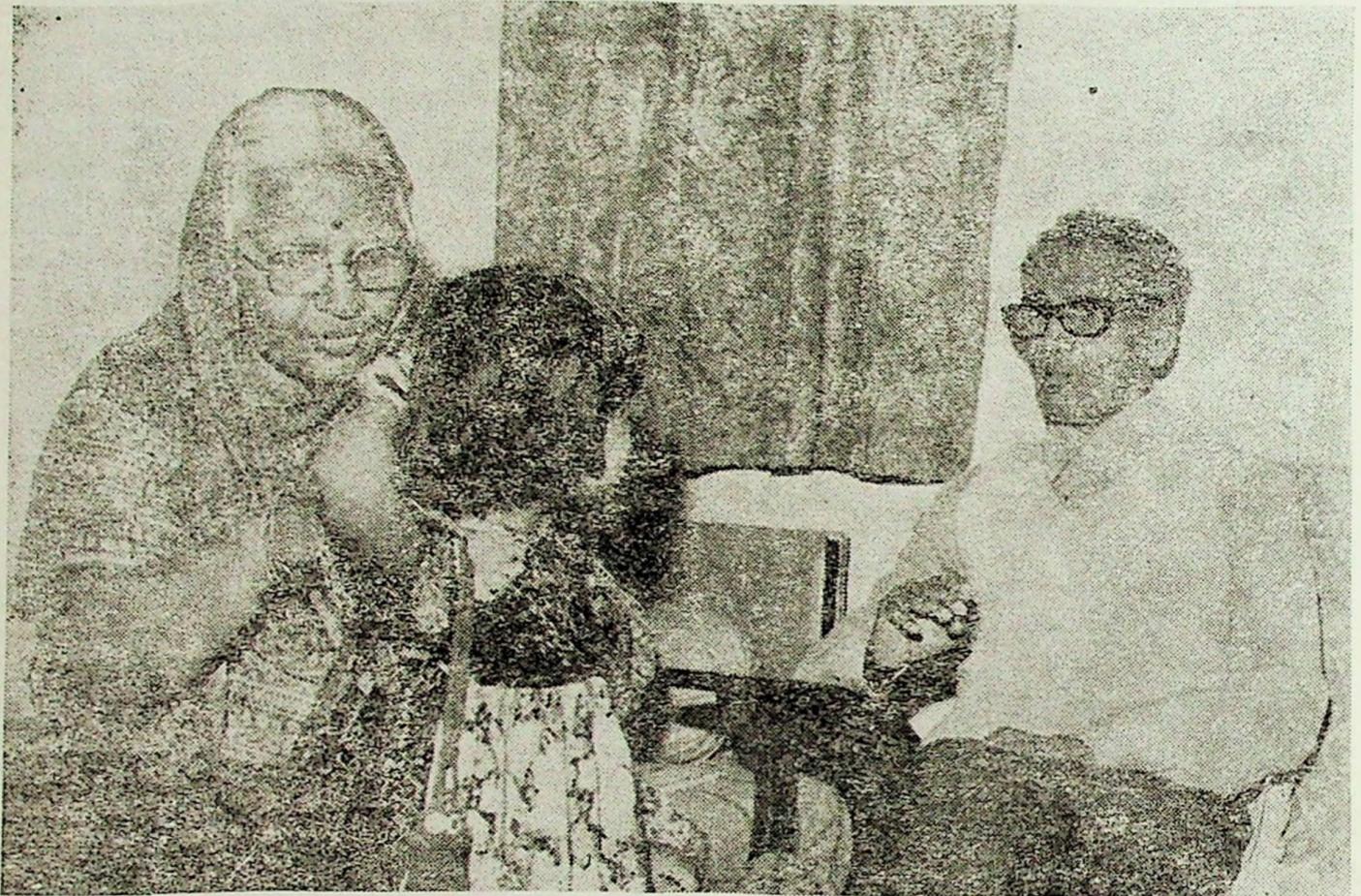
The population of patients which require long-term care is predominantly female. They require care because they can no longer fend for themselves or because they have become too heavy a burden on their relations or spouses. By definition, most of their disabilities are incurable.

### Mental health

In terms of planning how best to provide care to patients, should be classified by need rather than by diagnosis. Mental hospitals are important in caring for the ambulant wanderer. They also provide a most suitable environment for the volatile, quick tempered, still physically powerful and occasionally paranoid and old men who may from time to time throw things about or lash out with their sticks. Again, the needs of those who are no longer able to live independent lives are by no means always similar. So long as mental faculties are preserved, goal of those providing care must be that patients retain autonomy, a sense of individual identity and the opportunity to make the maximum use of their remaining faculties and powers. Unfortunately, this is difficult to achieve in an institutional setting. Old people need help but too often help consists of doing things rather than helping them to do it themselves. It is much quicker to dress somebody or to feed them than to help them to do it themselves. So doing encourages dependence and precludes rehabilitation.

The proper care requires nursing skills, care of the feeble elderly requires sympathy, patience, tact and consideration. In some ways it is unfortunate that the care of the old has become so firmly entrenched as a medical responsibility. Doctors have relatively little to offer which derives from their knowledge of medicine. The use of drugs particularly sleeping pills and tranquillisers, should be kept to a minimum. Routine visits are important to check physical well-being and to monitor drug treatment but they can be relatively infrequent.

The importance of the doctor be he a practitioner physician or geriatrician is that he supports the staff.



*It is important to help the elderly to lead in dependent life in their own family and community which alleviates the feeling of alienation and loneliness.*

Because of his status, his enthusiasm and concerns are major determinants of morale, the attitudes of junior staff and ultimately the quality of care.

#### **Society's responsibility**

The improved care for the old depends upon a recognition of their needs and a decision by society to accord these needs a high priority. When resource is limited, it tends to be directed to the care of the acutely ill and to those conditions which are deemed to be curable. The present position is likely to deteriorate even further because the population of the old is going to increase in size over the next twenty years. Geriatrics does not appeal to doctors because cure of old age, or even its ailments, is not often possible. It is in a sense unfortunate that the care of the old is seen as a medical problem. Medical and nursing skills are important but their contributions to well-being are strictly limited.

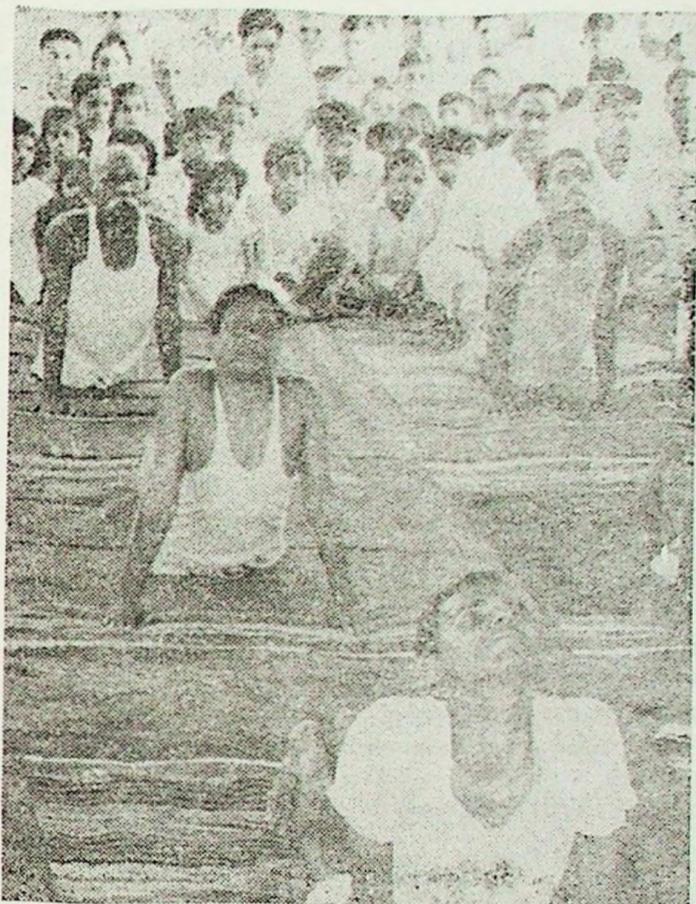
Ageing people and their families should be more involved in their own care. Health educational information on the promotion of health and prevention of disease is required, as are simple handbooks of personal care. Knowledge of locally available services and social support systems represents another important element of prevention and will assist ageing people and their families seeking health care. Too often the aged fail to seek care in the belief that ailments are part of the ageing process.

New orientations are required on the part of care providers to help ageing people maintain independence, support self-health care, and prevent disability. Such support to ageing people must be provided by medical practitioners, who are knowledgeable on the subject of ageing, interested in ageing people and their families.

*(Courtesy: All India Radio)  
—YOJANA—June 1982*

# YOGA for Keeping Fit in the Old age

O. P. TIWARI



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Yoga helps to maintain good physical health and creates positive healthy psychological outlook. It contributes to the better psychosomatic condition of the individual and healthy society.

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THE word yoga is derived from the root "Yuj" which means to join, *Jiva* with *paramātmā*. Taking yoga from *Sāikhya* point of view, this interpretation may not be correct. I agree with Swāmi Omānand Tīrtha when he says : "Yoga is a way to lead oneself introvert from *sthūla* to *sūkṣma*". It is a way of life which makes man a better man. It tries to take out the animal aspect of man from him and thus makes him a man worthy in the society and for himself.

Yoga leads a man to the state of *samādhi*. A man in *Samādhi* is not a man who merely closes his eyes from this world and sits in meditation. He is a man who is more conscious about the world, and who is *sthūtaprajña*—unmoved or unaffected—and perfect

doer of his duties. If we take Yoga to mean to join then the very purpose of yoga is defeated. Man becomes only concerned with his joining with God.

Leaving aside higher reaches of yoga, presently, I am trying to devote to its social aspect; that is what a man in this living world is concerned with. We have to be very careful in knowing whether yoga is meant only for *sanyāsīs* to be practiced by them in the forests or to a common man who has equal right to practice it. If so; for what? Shri *Svātmārāma* in his *Hatha Pradīpikā* says: केवलं राजयोगाय ह विद्योपदिश्यते । I—2 (Kevalam Rājayogāya Hathavidyopadiśyate). But along with *Rājayoga* he emphasizes the need of the healthy body and healthy mind which

is a necessity for higher living. There are a few people who claim that it is meant only for Yogis. As Gheraṇḍa Saṁhitā says before you proceed for higher things bake your body with the fire of Yoga. योगानलेन संदह्य घटशुद्धिं समाचरेत्-18 (Yogānalena sandahya ghaṭasuddhiṁ samācāret. 1-8). Hence we come to the conclusion that the teaching of āsanas, prāṇāyāma and various kriyās is meant to keep our body healthy; and when the body is healthy the mind is automatically healthy.

### Perfect personality

Our personality is perfect if we are sound both mentally and physically. And yoga has contributed richly towards them as Swāmi Kuvalayānanda and Dr S. L. Vinekar have rightly said in their book *Yogic Therapy*: "The term 'yoga' is used to indicate both the 'End' as well as the 'Means'. In the sense of 'End' the term yoga signifies 'Integration'; at its highest level. All the means that subscribe to help reach this goal, also constitute Yoga in the sense of *Yukta*; it means the technique. All the practices, whether high or low, that are calculated to help the progress of the aspirant towards such an integration are together known by the name 'Yoga' yoga thus, is an integrated subject which takes into consideration man as a whole. It does not divide him into water-tight compartments as body, mind, spirit, etc.

Also, what type of personality is conceived? It is as the *Gīta*, puts it "Sthitaprajña" who remains undisturbed in all situations. Such a balanced person is able to take right decisions whenever situation demands.

The yogic thinking about the body and mind in action is that both have a homoestatic mechanism which contributes to a balanced integrated functioning even in the face of outer or inner stimuli or conflicts.

Let us take the factors which contribute to the sound mental and physical health and how far Yoga can help it.

The Gheraṇḍa saṁhitā claims: the purification is acquired by the regular practice of six purificatory processes *Āsana* gives strength, *Mudrā* steadiness and *Prāṇāyāma* lightness.

The same is very distinctly shown by Gorakṣhaṅgītha in his Satak :

ĀSANENA RAJOHANTI PRĀNĀ YĀ-  
MENA PĀTAKAM VIKĀRĀMA  
MĀNASAM YOGĪ PRATYĀHĀRENA  
SARVADĀ

GS 54

The above mentioned *śloka* clearly acknowledges the mental and physical disorders and how they can be removed.

In the *Haṭha Pradīpikā* (edited by Swāmi Digambarji and Pt Kokaje—published by Kaivalyadhāma, Lonāvā), the fifth chapter is exclusively devoted to certain disorders and how we can correct them. But before we proceed further we should understand how Yoga can contribute to the normal health. From the health point of view, *Āsanas*, *Prāṇāyāma* and *Kriyās* play a very important role. *Āsanas* are classified into two groups: (1) Cultural poses, purely for physical health or condition, and (2) Meditative poses for a comfortable sitting posture for a *Sādḥaka* to help him proceed easily without any discomfort for *Prāṇāyāma*, *Dhāraṇā*, *Dhyāna* and *Samādhi* (stage of sthitaprajña).

Let us see how *Āsanas* help attain and maintain perfect health at old age. A close look at our body shows that to maintain perfect health, it is necessary that every tissue in the body is maintained in excellent condition. For the health of the tissues, it is essential to have proper nourishment at constant intervals.

### 1. Nourishment of tissues

The nourishment of the tissues depends on proper circulation of blood, which is done by our heart and arteries, veins, etc. The main task is that of veins which need help to bring the blood from various tissues to the heart. Various Yogis have contributed to various *āsanas* viz. *Śiraśāsana*, *Viparītakarāni*, *Sarvāṅgāsana*. These contribute by bringing rich supply of blood to the upper extremities, and to the brain.

Tissues also need oxygen in sufficient quantity to remain healthy. This is also carried by blood. We know that *āsanas* keep the circulatory system in perfect, healthy condition and thus help to supply the blood and oxygen to the tissues.

It is also to be ensured that nerves function to their best ability and unwanted stuff is not retained in the body for long. This can be possible if we take care of our digestive system, respiratory system and endocrine system.

### Digestive system

For digestive system, to function properly, all organs of this system like stomach, small intestines, should get natural massage from breathing in and out. The abdominal movements make this possible. Here, the abdominal muscles should constantly maintain their tone. The yogic culture not only keeps them fit but gives them extra massage too. For example, *Uddiyāna*, *Nauli*, *Agnisāra* and *Kapālabhātī* are unparalleled exercises that no system of health provides.

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“It is an admitted scientific fact that muscles can maintain its elasticity and strength if they are subjected to stretching and contracting exercises”

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Swami Kuvalayananda has very rightly stated that “It is an admitted scientific fact that muscles can maintain its elasticity and strength if they are subjected to stretching and contracting exercises”. *Āsanās* involving upper and lower extremities for bending backward do it very nicely. *Bhujangāsana*, *Salabhāsana*, *Dhanurāsana* are stretching for front abdominal muscles. *Yoga Mudrā*, *Paśchimātāna*, *Halāsana* are back stretch muscle exercises where the front abdominal muscles are contracted. Side abdominal muscles are taken care of by *Vakrāsana*, *Cakrāsana*, and *Ardhamatsyendrāsana*. Thus we see that the tone of the abdominal muscle can be kept up to its highest point of normalcy with the help of above postures.

#### Respiratory system

Next in importance is our respiratory system. Besides lungs, the other parts which are extremely important are the respiratory muscles. If they are healthy, the whole system can be kept healthy. Therefore, firstly the lungs, respiratory muscles and the respiratory passage should be clear as well as healthy. If the elasticity of the lungs is fully maintained we can be sure of other factors. *Āsanās* and *Pranayama* help in this regard as stated by Swāmi Kuvalayananda. The *Salabhāsana* and *Mayūrāsana* are also of great help. To me *Utthita Padmāsana* and *Vakrāsana* also contribute to the same. As we are required to inhale and then retain the breath and perform the pose, pressure is created inside the capillaries for every air cell to breathe it cannot remain idle. *Kapālabhātī* in which rapid inhalation and exhalation is done, make the respiratory muscles strong.

The same is the case with the respiratory passage which gets blocked at times because of our bad tonsils, chronic cold, sinusitis, etc. *Āsanās*, *Jihvūbandha* *Siṃhamudrā* help cleaning the waste produce out of these disorders.

#### Endocrine system

The most important factor is the healthy endocrine secretion, obtained from thyroid, parathyroid, pituitary, adrenal. *Sarvāṅgāsana*, *Vipitakarāṇī*, *Matsyāsana*, *Halāsana*, *Bhupāṅgāsana*, *Siṃhamudrā* are apt exercises for thyroid. *Sirsāsana* is very important for pituitary. *Bhupāṅgāsana*, *Dhanurāsana*, *Uddiyāna*, *Naulī*, take care of adrenal glands.

Thus we come to the conclusion that *Āsanās* can be much helpful to maintain our physical health.

#### Nervous system

Nervous system is controlled by brain. If all the nerves are healthy our physical movements are smooth and efficient. Hence, we have to see how *āsanās* can be of help.

All yogic poses contribute to the efficiency of the brain by rich supply of blood to it. Other yogis *āsanās* that help the spine, bend either forward, backward or sideward keep it healthy. Thereby, the whole nervous system works efficiently. So far, we have discussed the physical aspect of *āsanās*. Now we come to the psychological or mental aspect of the *āsanās* and *Prāṇāyāma* which is of great value at all age levels, specially at old age.

#### Mental health

Let us now think about the mental health and how does yoga contribute to it. The root cause of our suffering are our expectations, liberal sex indulgence, telling lies. These keep us always under tension and type of *VIKṢHIPTA* condition of mind prevails. Yoga has devoted its first step of *Yama* and *Niyama* for this. It has evolved a methodology which we should try to follow in the beginning. We may not succeed completely; but, if the aim is high we may achieve the most. We can thus leave an example for others, where the individual and the society can resort to it. Hence these *Yamas* are being developed according to *Patañjali*.

There are five *yamas*: *Ahimsā*, *Satya*, *Asteya*, *Brahmacharya*, and *Aparigraha*. There are others who have included nine, but I shall deal with five only:—

(1) *Ahimsa (Non-violence)*: It is not for non-killing. We cannot remain even for a second without killing; but the conscious effort is to save the most and kill the least. Our intention should not be killing or hurting anybody. The outlook which we have to develop is of discrimination against evil, that is a belief that of even not being capable of hurting. We do not resort to hurting as it is unhealthy and unrequired. We understand the utility in the greater in-

terest of the society and of ourself. It is easy to loose temper but difficult to understand its evil effect and control. But what is desirable is not to tease anyone either by thinking, acting or talking. A Hindi poet has very correctly put it:—

PRATHAMA AHIMSĀ HI SUNA LIJE |  
MANAKARI KĀHU DOṢA NA DIJE ||  
KAḌUĀ VACHANA KAṬHORA NA  
KAHIYE |  
JĪVAGHĀTA TANASOM NAHIM  
DAHIYE  
TANA MANA VACHANA NA KARMA  
LAGĀVAI |  
YAHĪ AHIMSĀ DHARMA KAHĀVAI.

(2) *Satya (Truthfulness)*: We have to control our another sense of speech as far as possible. We should always speak the truth (SATYAM VADA PRIYAM VADA) and we know by speaking truth a state of courage is produced. Man becomes fearless and can face any situation without tensions and he can maintain the equilibrium of mind without disturbing himself and thus can live free from nervous tensions which may lead him to suffer certain other disorders.

(3) *Asteya (Non-stealing)*: It is another contribution of yoga to maintain a peaceful social life. Stealing of either kind is bad and unhealthy. A man cannot be true to himself when he knows that he is stealing. A guilt complex is created and unhealthy behaviour is a product of it. Man suffers, hence one is advised not to steal even by thought.

(4) *Brahmacrya (Celebacy)*: Yogi Charandas, a Hindi Poet puts it nicely:

YATĪ HOYA DRḌHA KĀNCHA  
GAHI JAI  
VĪRYA KṢHĪNA NAHIM HONE DIJAI ||  
MAĪTHUNA KĀHUN AṢṬA  
PARAKĀRĀ |  
BRAHMACHARYA RAHAJANA SE  
NYĀRĀ ||  
SUMIRANA TIRIYĀ KO NAHIM KARIYE |  
SRĀVANA NA SURATI RUPA NAHIM  
DHARIYE ||  
RĀSA SRṆGĀRA PAṬHAI NAHIM  
GĀTAI |  
NARINA SOM NAHIM HAMSĀI  
HAMSĀVAI ||  
DRṢṬI NA DEKHAI DIGH NAHIM  
DAURAI |  
MUKHA DEKHAI MANA HOJĀ  
AURAI ||  
BĀTA EKANTA KARAI NAHIM  
KABAHIM |  
MILANA UPĀYA JU TYĀGAI  
SANAHIM ||

SPARŚA AṢṬAMA NIKAṬA NA JAVAI |  
KĀMA JĪTI YOGI SUKHA PĀVAI ||  
AṢṬA PRAKĀRA KE MAITHU NA  
JĀNOM |

INHAIN TAJE BRAHMACARYA  
PICHĀNOM ||

(5) *Aparigraha (Non-hoarding or sense withdrawal)*: In all the *yamas* we finding the more stress is being laid on the contentment. A person is never led to feel frustrated. He has to keep whatever minimum is necessary for him and not to hoard for a long period. I see no reason why peace does not prevail in the society. Why a person would prefer to see his neighbour suffer when he himself has ample to share with others.

Patañjali, under another head, speaks of *Niyama*:  
(i) Saucha, (ii) Santosa, (iii) Tapa, (iv) Svadhyaya and  
(v) *Īśvarapraṇidhāna*.

(1) *Saucha (Cleanliness)*: It is an idea full of SATTVA GUNA that is, difference between cleanliness and SAUGA. It is associated with feeling. *Pavitratā* (पवित्रता) It is both internal and external. One is required to have not only outer cleanliness but also clealiness in his thoughts which are ultimately responsible for better action.

(2) *Sāntoṣa (Contentment)*: We shall not feel frustrated just because we do not have. We should know what we want and we have to try for it. We have not to sit idle; but no frustration should accumulate just because we failed to get things. As the Gita Says:—

KARMANYEVĀDHĪKĀRASTE, MĀ  
PHALEṢU KADĀCANA

As also MANU puts it:—

SĀMTOṢA PARAMĀSTHĀYA SUKHA-  
RTHĪ SANGATO BHARET

(3) *Tapa (Austerity)*: Regarding Tapa, Gita says: PRANAYA MAH PARAM TAPAH. One is advised to resort to have *Tapa* daily. So that we get *nāḍi śuddhi* and once we get its conception understanding of life becomes more clear. We are able to perceive more clearly the nature of the problem we are facing.

We should take *tapa* related to our duties. We should strive hard to achieve what is expected to help in life process of evolution.

(4) *Svādhyāya (to study)*: We should not lead our life carelessly. We must read, study the texts that are important to guide our life (whatever field of activity

(Continued on page 58)

# DEVELOPMENT AND ENVIRONMENT

S. B. CHAVAN

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The ecological problems with which we are concerned embrace diverse aspects ranging from economic, social, psychological problems of human settlements to the management and use of natural resources and the conservation of natural habitats.

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SINCE man discovered that he could use nature for his own purposes he has been interfering with his environment. Man is a part of nature and only one of many species inhabiting the earth. But he has treated it as his colony to exploit it. The scale of his intervention has grown to a point where it has produced vast and disruptive changes which have already modified our existence more profoundly than any earlier human activity. Hence, the ecological problems with which we are now concerned embrace diverse aspects ranging from economic, social, psychological problems of human settlements to the management and use of natural resources and the conservation of natural habitats.

Environment during this century has faced severe stresses. Population has exploded, non-renewable resources are being increasingly depleted and technological growth has been phenomenal resulting in an unprecedented air, water and noise pollution, land deterioration and accumulation of pesticide residues. But during the last decade there has been a fundamental change in our thinking with regard to man-environment equation. It has now been increasingly realized that the nature of environment plays a crucial role in determining the quality of life and the well being of the society. Technological developments and economic progress depend on the resources obtained from the environment which are finite and not unlimited. Moreover, developmental activities pursued without due consideration to their ecological implications cause considerable environmental degradation. This ultimately undermines the developmental objectives. Environment is our essential resource for development and its optimum utilization and wise management is necessary for progress and national

planning.

In our country environmental problems are of three broad categories:

- (i) Those arising from conditions of poverty and under-development.
- (ii) Those arising as negative effects of the very process of development.
- (iii) Those arising from human greed.

The first category has impact on our natural resources; land, soil, water, forests, wildlife, etc., as a result of poverty and the inadequate availability of means to fulfil basic human needs of food, fuel, shelter, employment etc. for a large section of our population. The second category is due to the side effects of efforts to achieve rapid economic growth and development. These are due to poorly planned development projects and programmes as well as lack of attention to long term concerns. The third category arises from a desire to make quick profit out of natural assets without any regard for the good of the community as a whole.

The Sixth Plan envisages, among other things, the improvement of the quality of life of the people in general and with special reference to the economically and socially backward people, progressive reduction in regional inequalities in the place of development and in the diffusion of technological benefits, bringing about harmony between the short and the long term goals of development by promoting the protection and improvement of ecological and environmental assets, and promoting the active involvement of all sections of the people in the process of development through appropriate education. The strategy

adopted for the Sixth Plan consists essentially of moving simultaneously to strengthen the infrastructure for both agriculture and industry so as to create conditions for an accelerated growth in investments, output and exports, and to provide, through special programmes designed for the purpose, for increased opportunities for employment, especially in the rural areas and the unorganised sector and to meet the basic minimum needs of the people. Stress has been laid on dealing with interrelated problems through a systems approach, greater managerial efficiency and intensive monitoring in all sectors, active involvement of the people in formulating specific schemes of development at the local level, and in securing their speedy and effective implementation.

#### **Problems of hill areas**

It has also been recognized that the pathways of development adopted in the past have resulted in an uneven distribution of the benefits of economic growth as between geographical areas and also between socio-economic groups. It was in realization of this phenomenon that certain specific target group-oriented programmes, such as SFDA and MFAL were initiated during the Fourth and Fifth Five Year Plan periods. Special programmes for drought-prone, desert and tribal areas were also initiated. But, in spite of these programmes certain geographical areas present some very special ecological and socio-cultural features, which unless specifically taken into account do not permit the present planning process and the schemes developed within it, to be of major assistance to them. The hill areas of the country belong to this category.

The hill areas fall broadly into two categories:

- (i) Those which are co-extensive with the boundaries of the State and Union Territory. The States and Union Territories of North Eastern Region, Jammu and Kashmir and Himachal Pradesh fall into this category.
- (ii) Those which form a part of a State. Hill areas of Uttar Pradesh, West Bengal, Western Ghats, the hill areas of Tamil Nadu, etc., belong to this category.

The development of the hilly areas in the country, however, cannot be undertaken in isolation from the adjoining plains, with which their economy is closely inter-related. The hilly areas influence, to some extent, the climate of the plains; they contain the sources, the catchments and the water-sheds of several major river systems which flow to the plains; they abound in forests, plants and mineral wealth as well as hydel energy resources. Our experience of development planning during the last three decades has increasing-

ly underlined the fact that unless adequate programmes are evolved for the conservation and proper utilization of the resources of the hill areas, not only the problems of these areas will continue to remain unsolved but the economy of the plains may also be adversely affected. Symptomatic of this aspect are the rapid siltation of dams, reservoirs, flooding, changes in agro-climatic conditions and pressure on the employment market because of the large scale migration of people particularly men from hill areas. Development of the resources of the hill areas is, hence, necessary in order to enable the population living in these areas, who are by and large very poor, to have their share of the benefits accruing from modern science and technology. But such development, however, has to proceed in a way that the eco-system constituting the hills and the plains is not irreversibly damaged, but is preserved in a suitable condition for future generations. There is, therefore, a paramount need for conceiving an integrated strategy for the development of the hill areas based on sound principles of ecology and economics. It was in realization of this need that special hill areas development programmes were initiated during the Fifth Plan.

Experiences gained in the hill area development programmes suggest the need for greater horizontal integration among the various elements of the development programmes. Equally there is a need for a balance in emphasis between beneficiary-oriented and infrastructural development programmes, keeping in view the vital importance of ecological restoration and conservation. Better water and land-use and control of soil erosion through watershed management, afforestation, silvi-pasture development and replacement of annual crops with perennial shrubs and trees and plantation crops in steep slopes and development of other high-value low-volume crops lined with processing and marketing are some of the methods of promoting sustainable development.

#### **Sixth Plan strategy**

During the Sixth Plan, an integrated strategy will be pursued. The planning process so far developed for the hill areas would be reviewed both in its operational mechanics and content. The programmes of ecological conservation in some areas would require a regional approach and coordinated action by several states. The Western Ghats region and the Himalayan region, both cut across several States. For these regions, appropriate implementation mechanisms would be devised for ensuring a regional over view and action at the national level.

New approaches will have to be introduced during the Sixth Plan for meeting the basic needs of hill people comprising water, food, work, fodder, feed, fuel and fertiliser. Water will have to be harnessed in small ponds and reservoirs on a watershed basis and stored for use during winter and spring. Since land in the hills is best used for perennial crops, it will be advisable to store the needed foodgrains in small storage structures at numerous points so that food availability attains the requisite degree of viability for persuading farmers to abandon jhumming and adopting cultivation of annual crops in steep slopes. "Store water and food wherever possible" has to be a major motto of the IRD programme in hill areas. Work will have to be provided under NREP and development projects in the fields of forestry, animal husbandry, fisheries, horticulture, agro-forestry and cottage industries. Since women do most of the jobs in hills, they will have to be given opportunities for upgrading their skills in *Krishi* and *Van-Vigyan Kendras*. The district Manpower Planning and Employment Generation Councils will have to prepare detailed blueprints and action plans for this purpose. Fodder and feed plants will have to be grown extensively under the social forestry and agro-forestry programmes. Until adequate fodder and feed become locally available, it will be necessary to establish "Fodder and Feed Banks" at suitable places involving the supply of enriched cellulosic wastes and straw. Arrangements for fuel-supply will have to be made under the village woodlots programme. Quick growing fuel trees will have to be cultivated under the social forestry programme. The Inter-University Eco-development Camps to be organized with the help of the staff and students of universities and the eco-development forces consisting of ex-servicemen will have to play a leading role in spear-heading the afforestation movement. This programme will have to be monitored and scientifically supported by the Himalayan Research network to be constituted with the involvement of all the 13 universities in the Himalayas. A similar programme will have to be organized for the Western Ghats region.

### River pollution

Waters of our rivers are also not free from pollution. There are evidences of the adverse effects of water pollution from all over the country. These range from the transmittal of waterborne diseases like cholera, jaundice, typhoid and dysentery to fish kills and loss of agricultural productivity through the use of polluted water. From the Dal Lake in the North, to the Pariyar and Chaliyar rivers in the South, from the Damodar and Hooghly in the East

to the Thana Creek in the West, the picture of water pollution is uniformly gloomy. Even our large perennial rivers like the Ganga are today heavily polluted.

Investigations have revealed that the major sources of pollution of our river waters are the discharge of community wastes from human settlements. Most of the community and industrial waste waters go straight into water courses rendering them unfit for most uses, least of all drinking water sources.

The need for making concerted thrust involving interdisciplinary collaboration, to solve the problems of environment and area development have been long felt in the past. The main reason for the gap between knowledge gathered in universities and laboratories and their application by industry and infrastructure is the inadequate inter-action between technologists, economist and academicians. How the institutions of higher learning, with vast resources of educated and trained manpower can lend a helping hand to the solution of these problems has been a growing concern within the Planning Commission. It is as a result of this concern the Planning Commission has been trying to collaborate with the Universities and Research Institutions to find solutions of problems where considerable studies and researches have to be undertaken and necessary manpowers to be trained.

The Sixth Plan makes a specific reference to the role of universities in the developmental activities:

"The institution of higher learning would be encouraged and enabled to involve themselves within the development activities in the community and provide requisite support through extension services of students and faculties. Such extension work would be considered part of the normal academic work of the students and teachers, and not as social service. Universities would not only extend frontiers of knowledge but also supply such knowledge to solve problems of the community on whom they depend."

Over 40 universities and over one million students and faculty members will participate in these coordinated action research projects. These universities have already done lot of work in initiating systematic studies. A number of Research Institutes administered by the Departments of Science and Technology and Environment, ICAR, CSIR, etc., are also participating in these studies.

—Excerpts from the inaugural address at the meeting of Vice-Chancellors on co-ordinated Action Research Projects—  
March 20, 1982.  
(Courtesy: YOJANA, June, 1982)

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Acute diarrhoeal diseases are one of the leading causes of morbidity and mortality in the developing world; not only do they kill people who live in hunger and poverty, but they retard the growth of young children and impair the quality of life of those who survive.

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# Diarrhoeal Diseases and their Control

**I**N some countries as much as 40 per cent of mortality in children up to five years of age is related to diarrhoeal diseases. In 1980, the population of children aged under five in Africa, Latin America and Asia (excluding China) was estimated at 338 million; the number of diarrhoeal disease episodes at 744 to 1000 million; and the number of diarrhoeal deaths at 4.6 million.

Until recently, the cause of diarrhoeas could be determined in less than one third of all cases. In the past 10 years, scientific progress has made it possible to identify the exact cause of over 80 per cent of cases of diarrhoea visiting for treatment facilities.

## How diarrhoeal diseases spread

All diarrhoeal diseases are spread, primarily, by the faecal-oral route. This explains the vast difference in the incidence of diarrhoeal diseases between developed countries where appropriate sanitary facilities are available to most people, and the developing countries where food hygiene is often inadequate and safe water supply and sewage disposal systems are frequently lacking.

The cause of death in diarrhoea is most often *dehydration* due to the loss of large amounts of water and salts. Fatal dehydration can develop within a few hours. Until recently, most cases of dehydration were treated with intravenous infusion. In many countries, over one-third of beds reserved for children in hospitals or specialized clinics were occupied by patients suffering from diarrhoea—treated with expensive antibiotics and intravenous fluid.

## Oral rehydration

It has now been established that a simple oral rehydration fluid can treat most cases of dehydration from watery diarrhoeas, including cholera. Known as Oral Rehydration Salt (ORS) solution, it contains:

- 3.5 g sodium chloride (table salt)
- 2.5 g sodium bicarbonate (baking soda)
- 1.5 g potassium chloride
- 20.0 g glucose

in one litre of water. The glucose is an important ingredient because it helps the salt and water to be absorbed into the body. This method is simple, inexpensive and can be administered in the home, once the mother has been shown the correct way to prepare it.

Treatment should be initiated as soon as possible after the onset of the illness, since the development of dehydration can be very rapid. Patients should be encouraged to drink it continuously. When the patient cannot drink enough fluid to keep up with the amount required for rehydration, when there is severe vomiting, and in cases of severe dehydration and shock, intravenous rehydration might be necessary.

## Diarrhoea and malnutrition

There is a well established link between diarrhoea and malnutrition: malnourished children get more severe and more frequent diarrhoea, diarrhoea makes malnutrition worse. Food should not be withheld during illness, since there is no physiological basis to the common belief that the bowel should be "rested" during acute diarrhoea. It is essential that breast-feeding be continued if a child with diarrhoea is on breast milk. As soon as appetite returns, soft foods should be given.

The indiscriminate use of antibiotics and spasmolytics must be discouraged, not only because they are often of no therapeutic value, but they are needlessly expensive and can also be harmful.

## Bacteria and viruses

The agents known to be important causes of diarrhoea are of various types: they can be bacterial or viral organisms.

### *Bacterial pathogens*

*Vibrio cholerae* 01 is the cause of cholera; two biotypes have been recognized, classical and El Tor, the latter being responsible for the seventh cholera pandemic which started 20 years ago in Indonesia and has subsequently spread to most of South East and Southern Asia, the Middle East, West and East Africa, Southern Europe, the Far East and the Western Pacific, and the United States of America.

It produces an enterotoxin which causes fluid loss resulting in severe dehydration.

Contaminated water and food play a major role in transmission whereas transmission through direct person-to-person contact is rare. In hyper-endemic areas, it is predominantly a disease of children but rarely affects breastfed infants under one year of age.

Man is the main reservoir for the vibrio, but there is evidence that the El Tor organism can survive in water for prolonged periods, which suggests that infected shellfish or coastal waters can serve as reservoirs of *V. cholerae* 01 infection.

*Vibrio parahaemolyticus* is a food-borne pathogen usually transmitted by inadequately cooked or improperly handled fish or shellfish. It has two distinct clinical syndromes: a watery diarrhoea or a bloody diarrhoea with abdominal cramps and fever.

It is an important cause of diarrhoea in Asia, the USA and Europe.

*Vibrio cholerae non-01* causes an illness that resembles cholera but is milder. Food and water play a major role in the transmission of the organism. This vibrio is also often isolated from the stools of persons without diarrhoea, suggesting that it is frequently non-pathogenic.

*Enterotoxigenic Escherichia coli* (ETEC) : various strains of this pathogen have been isolated which are classified according to the type of enterotoxin they produce.

Recent scientific work suggests that these organisms are a frequent cause of diarrhoea in children of the developing world, and by far the most common cause of what is called "travellers' diarrhoea". Symptoms can range from mild diarrhoea to a severe cholera-like disease. The illness is most commonly caused by eating and drinking contaminated substances.

*Shigella* : Four sub-groups have been identified to date. They produce bacillary dysentery and one (*S. dysenteriae* type 1—Shiga bacillus) is associated with high mortality in children. Humans are both reservoir and host, and the disease is most common in children under five years of age. Person-to-person contact is the most common mode of spread. Studies have shown that the incidence of shigellosis decreases as the amount of water used in the home increases: it is a typical example of a (clean) "water-washed" disease.

*Campylobacter jejuni* can cause watery diarrhoea or dysentery and is responsible for 5—15 per cent of acute diarrhoea cases. It can be transmitted by food or water, or by person-to-person spread.

*Salmonella*: About 2000 serotypes are known which vary from country to country; they produce cases of febrile gastroenteritis. The incidence of salmonellosis is high in persons with certain underlying diseases (e.g. schistosomiasis, chronic liver disease, etc.). Salmonellosis is mainly transmitted by contaminated food, especially animal products.

*Salmonella typhi* causes typhoid fever, in which diarrhoea is uncommon except in infants. Up to 80 per cent of infections are mild or subclinical.

### *Viral pathogens*

*Rotavirus*: First detected in man in 1973, this virus causes a typical syndrome of diarrhoea preceded or followed by vomiting and fever; the illness lasts from three to seven days and can result in severe fluid loss.

Rotavirus is responsible for up to 50 per cent of diarrhoea cases in children between six months and two years of age visiting treatment facilities. It is rare in adults, probably because most people have acquired immunity by the third year of life. Person-to-person contact is the main route of transmission, hence the importance of personal hygiene.

The following other agents—bacterial, viral or parasitic—can produce diarrhoeas, but their importance as a cause of diarrhoea in developing countries is still unknown; entero-invasive *E. coli*, enteropathogenic *E. coli*, *Clostridium perfringens*, *Staphylococcus aureus*, *Bacillus cereus*, *Yersinia enterocolitica* (bacteria), Norwalk and Norwalk-like agents (viruses), *Entamoeba histolytica*, *Giardia lamblia* (parasites).

(Continued on page 59)

# Energy Requirements and Recommended Allowances

B. S. NARASINGA RAO

THE Indian Council of Medical Research (ICMR) recently revised the energy allowances for Indians. These allowances are average needs of an individual in a specific group. Infants during the first year of their life need relatively more energy for their rapid growth. Their average energy requirement during this period is 110 Kcal/per kg. body weight. Breast milk alone can satisfy their needs upto 4—6 months, beyond which they have to be given supplementary foods. Most Indian women breast-feed their infants upto one year or beyond. Infants of poor mothers receive adequate energy upto six months from the breast milk and grow well. But beyond six months their growth falters due to insufficient supplementary foods.

### Energy requirements for Children

Allowances of energy for children are based on energy intakes of active healthy children. Such information on Indian children is scanty. Hence ICMR recommended energy allowances for Indian children as suggested by FAO/WHO with a few modifications. Recent studies of National Institute of Nutrition (NIN) have shown that actual energy intake of normal, healthy, growing, active children (1—5 years) from well-to-do families, was similar to the allowances recommended by the ICMR.

Surveys by NIN in the past two decades indicate that the energy intakes of rural low income group children are quite inadequate—on an average it is 30 per cent below the recommended levels. The types of foods eaten by the two groups—well-to-do and poor—may partly explain the difference. Cereal intake was similar in both the groups (150 g/day). The well-to-do children consumed higher amounts of milk (390 ml/day) and fat (20 g/day). But the rural, poor children consumed only 40 ml milk and 3 g. fat per day.

Energy is vital for leading an active, healthy life. Infants and children need energy for growth and activity. Adults need energy for work and for maintaining an optimum body weight. During pregnancy and lactation, women need additional energy for foetal growth and milk secretion.

In the children from the well-to-do families, 25 per cent of energy is derived from fat. This ensured energy adequacy by increasing energy density (Kcals/volume) of diet. The diet of the rural poor, on the other hand has a low energy density as it is based exclusively on cereals with negligible fat and milk.

### ENERGY ALLOWANCES FOR INDIAN CHILDREN

Age group (years)	Daily Energy Allowance (Kcal)	
1—3	1220	
4—6	1720	
7—9	2050	
	Boys	Girls
10—12	2420	2260
13—15	2660	2360
16—18	2820	2200

Inadequate energy intake is the primary cause for unsatisfactory growth of rural poor children, often resulting in various grades of malnutrition. Intakes of other essential nutrients except proteins are also unsatisfactory in these children. Lowered intake of energy and other nutrients makes the child grow into an adult with lowered body weight stature.

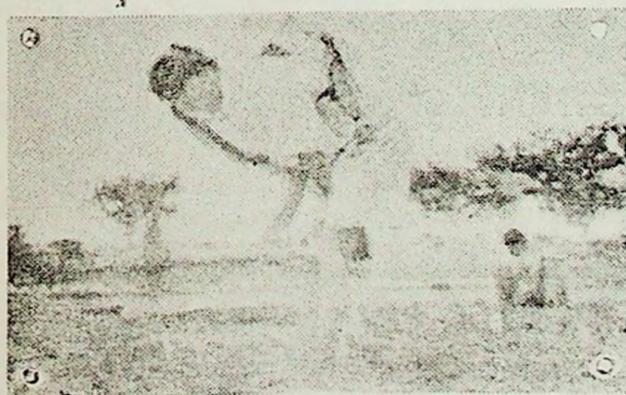
Growth retardation in the poor children, seen as low body weight and height, is the result of a child trying to adapt itself to chronic low energy intakes. This emphasizes the need to feed a child with adequate energy right from infancy. While computing energy allowances for undernourished children it is not desirable to make any adjustments for their actual body weights which are in fact less than normal. They must be fed energy at the recommended levels for their age so as to enable them to catch up in their growth.

### Energy requirements for adults

An entirely different approach is adopted for fixing energy allowances of adults. The body weight, daily activity and age influence the energy needs of adults. These factors vary from one individual to another. Therefore, energy allowances for adults are suggested as for a 'Reference Man' (RM) and 'Reference Woman' (RW) whose age, weight and activities are well specified. The RM and RW are considered to be in the age group of 20 to 40 years having body weight 55 kg and 45 kg respectively.

The recommended energy intake for those engaged in moderate activity such as agricultural or industrial labour is 2800 Kcal (RM) and 2200 Kcal (RW). For sedentary persons such as clerks, teachers, it is 2400 Kcal (RM) and 1900 Kcal (RW). For those doing very heavy work like in coal mines, black smithy, etc., the recommended energy allowances are 3900 Kcal (RM) and 3000 Kcal (RW). These figures should not be applied for any individual without making adjustments for his or her actual weight, activity and age.

For example a moderate worker (man) weighing 50 kg needs only 2500 Kcal and not 2800 Kcal. If



*Measurement of energy expenditure*

the same man is a sedentary person, he will need only 2200 Kcal. After 40 years his energy needs decrease and if his physical activity diminishes energy needs also will reduce further. Energy needs decline progressively after early adulthood because of reduced basal metabolic rate as well as curtailed physical activity.

### EFFECT OF AGE AND BODY WEIGHT ON ENERGY NEEDS OF MODERATELY ACTIVE ADULT

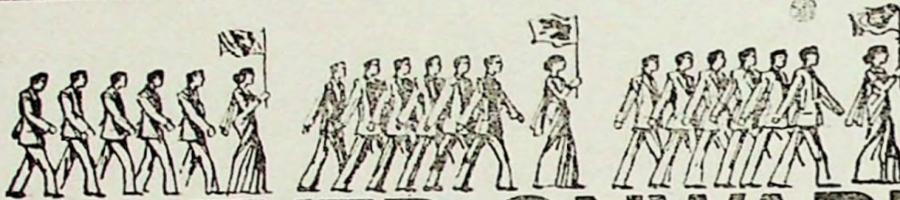
Age (Years)	Man (Kcal)		Woman (Kcal)	
	55 Kg.	50 Kg.	45 Kg.	40 Kg.
20—39	2800	2540	2200	1960
40—49	2660	2400	2090	1860
50—59	2520	2300	1980	1760
60—69	2240	2030	1760	1570
70—79	1960	1800	1540	1370

The National Nutrition Monitoring Bureau (NNMB) has found that in rural adults of different Indian States the mean body weight is 50 kg for man and 42 kg for woman. Hence, their mean energy needs for moderate activity will be 2500 and 2000 Kcals respectively.

Unfortunately, the low weights of these men and women are due to inadequate energy intake and associated poor growth during childhood. NIN has shown that capacity to do work depends on body weight. Rural Indian adults who weigh less will have a lower capacity to work, hence their work output will be lower.

Energy requirements are also increased in women during pregnancy and lactation. Additional daily intake of 300 Kcal during pregnancy and of 500 Kcal upto six months and 400 Kcal between 6—12 months during lactation have been recommended. Again NIN studies indicate that actual energy intakes of pregnant and lactating women belonging to low income groups are much below the recommended allowances. These women also have low body weights; hence their requirements are also lower than a normal woman (RW).

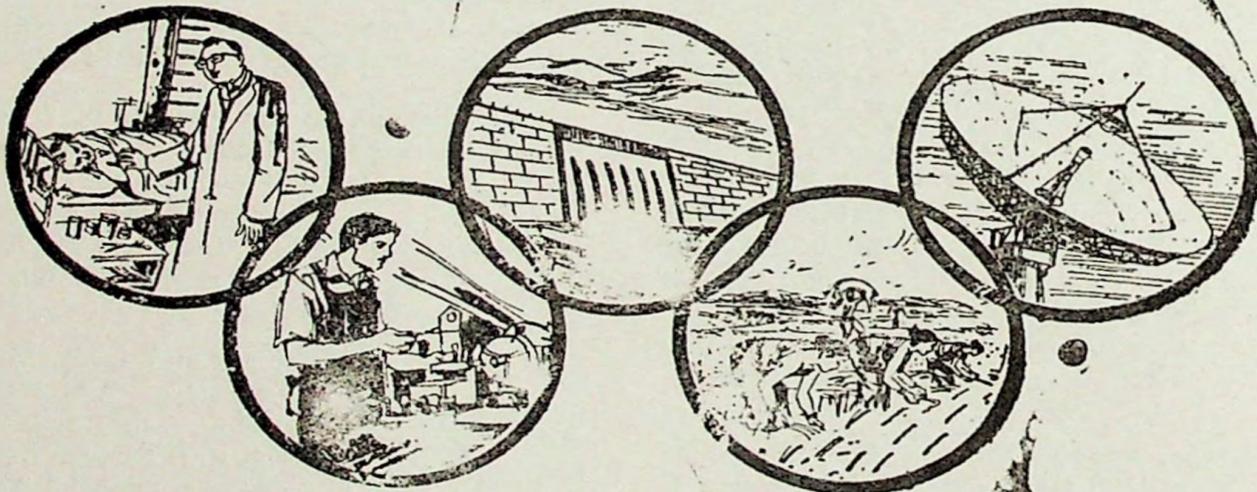
NNMB surveys show that over the past five years, mean energy intake (per consumption unit) in rural adults ranges from 2000 to 2700 Kcals. Perhaps these intakes are enough for the population because of lower requirements due to their lower body weights. Also they may be adjusting to the low energy intakes by reducing their physical activity. This unhappy situation affects productivity and has quite obvious socio-economic repercussions.



## EVER ONWARD

India is the recipient of congratulations from all over the world for the success achieved by us as hosts of the 9th Asian Games

Stadia were built in record time. Colour television brought the games live into millions of homes all over the country and abroad. Computers, electronic exchanges, micro-wave and satellite links were smoothly and efficiently utilised in a mammoth network of services.



An apt example of what united endeavour and hard work can achieve.

Similar success can be achieved in other spheres of national development if we work in the same spirit.



**LET US ALL JOIN HANDS  
TO BUILD A STRONG NATION**

44VD 82/557

There is considerable variation in energy needs between individuals and within individuals. NMB data indicates that there is a wide variation in body weights of rural adults which may range from 35 kg to 65 kg. Therefore, it is understandable that the energy needs of these individuals will also range from 1750 to 3200 Kcals, even if all are engaged in moderate activity. This, together with the differences in age and the intensity of physical activity contributes largely to the observed variation in energy requirements and intakes. There is also some difference in energy needs because of the biological differences in people to utilise available energy less or more efficiently. Its contribution if any is small indeed.

There is quite a lot of day-to-day variation within individuals in terms of energy intake as well as expenditure. On some days energy intake is less than energy spent. On other days, intake is in excess. But over a long period of say two or three weeks, an adult who maintains a constant body weight, will match his average intake with his average energy expenditure. He is in energy equilibrium. The true

energy requirement of any individual can be determined only by measurement of his energy expenditure and intake over a number of days.

On days when an adult eats less he will draw upon body fat stores and make up the deficit. If excess is eaten it is stored as fat, if the adult continues to eat less than his or her average requirement, first the activities are reduced. This is followed by loss per body weight. Adults on a continuous low energy intake cannot lead a healthy, active life. Continuous higher-than-needed caloric intake will lead to obesity and related problems.

In order to lead a healthy and productive life, it is recommended that all adults should ensure an average intake of energy as recommended for their age, weight, activity and to meet special physiological needs, during pregnancy and lactation in the case of women. To ensure satisfactory growth and development, infants and children should receive levels of energy recommended for their age.

—*Courtesy*- Nutrition News, July 1982

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## WHY WOMEN SHOULD BE EDUCATED

Educating girls may be one of the best investments a country can make in future economic growth and welfare—even if girls never enter the labour force. Most girls become mothers, and their influence—much more than the father's—on their children is crucial:

*\*In health.* Studies in Bangladesh, Kenya and Colombia show that children are less likely to die if more educated their mothers are, even allowing for differences in family income.

*\*In nutrition.* Among households surveyed in Sao Paulo, Brazil, for any given income level, families were better fed the higher the mother's education.

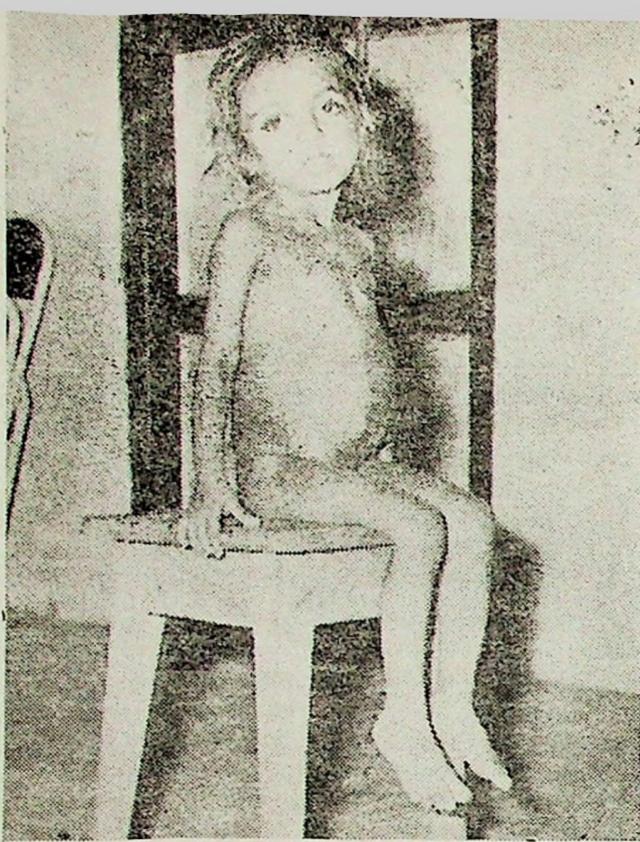
*\*In fertility.* Education delays marriage for women, partly by increasing their chances of employment; and educated women are more likely to know about, and use, contraceptives. Yet in most parts of the developing world, there are many more boys than girls enrolled at school. True, female enrolment grew faster than male between 1960 and 1977; but when boy's enrolments were where female enrolments are today, they were growing even faster. The educational bias is most pronounced in South Asia, the Middle East and North Africa, and parts of Sub-Saharan Africa; but it exists in every region.

Why? From the parents' point of view, education for their daughters may seem less attractive than for

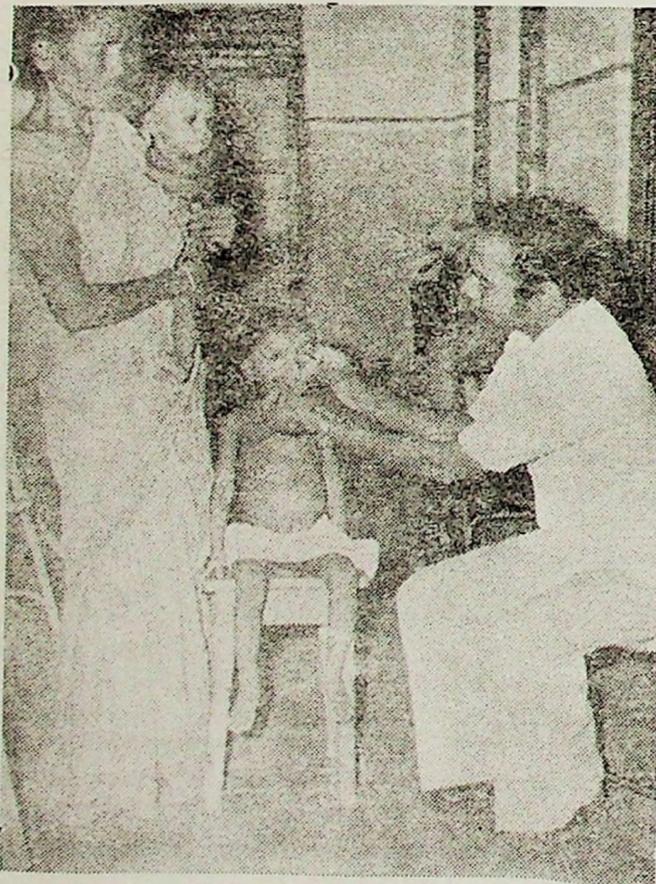
their sons. They may fear that education will harm their daughter's marriage prospects, subsequent domestic life and even spiritual qualities. A girl's education brings fewer economic benefits if there is discrimination against her in the labour market, if she marries early and stops working or if she ceases after marriage to have any economic obligations toward her parents. But parents and their daughters do respond rapidly to changing opportunities. When women took on key roles in the Anand Dairy Cooperative in Gujarat, India, education for girls became more valued. When a nutrition project in Guatemala offered employment to educated girls, the test scores of younger girls improved.

More generally, education does increase the chance of paid employment for girls. In Brazil married women with secondary education are three to four times more likely to be employed than those with primary education only—who in turn are twice as likely to work as women with no education at all.

—*World development report, 1980.* Washington, DC, World Bank, 1980. (From: *World Health Forum* Vol. 2, No 4, 1981.)



*The marasmic child of the village Manamathi Kandigai.*



*The child is being physically examined.*

### A Case Study

## ACTION LEADS TO ADOPTION

This is a very good case example where the field health workers can really assess the impact of educational component gone into the approved methodology of Integrated Rural Development Project.

THE Field Study and Demonstration Centre (FSDC) of the State Health Education Bureau, Directorate of Public Health and Preventive Medicine, Tamil Nadu, has taken up Uthiramerur Primary Health Centre for demonstration purposes, and started the Integrated Development Project in the Block. The Village Manamathi Kandigai, about 10 kms. from the Primary Health Centre, was selected for the project by the representatives of the Block.

The population of this village is 2000 belonging mainly to "Balaji Naidu Community" speaking Telugu and Tamil. Their occupation is agriculture.

The leadership pattern developed by the FSDC was highly integral and co-ordinated. It was found that mothers of the village Manamathi were having enough leisure and had the desire to spend their spare time usefully. Men and Women leaders were well-trained and educated on the health problems of the village, and also of the neighbouring villages.

Therefore, the FSDC encouraged the PHC team to develop a plan of action for the Integrated Rural Development Project. The Social Worker of the FSDC did the preliminary motivation to organize the project and provided guidance for the same.

While conducting the project, the Matharsangam (ladies club) members were taken up for health training based on fundamental of health education. Within a year the enthusiasm of these trained mothers increased by way of adoption of progressive projects like co-operative schemes on dairy development, tailoring, deputation of women for voluntary health work, etc.,

One such project, taken up by these young women, was on nutrition improvement in the village. Timely guidance was provided by the PHC and FSDC team to these women. The women also picked up helping good health practices.

### Marasmus child

During one of the visits to the village the FSDC staff alongwith some of the Matharsangam members found a marasmic child in the Day Care Centre of the Village. The child was two-and-a half year old, but could neither walk nor stand erect without support. She had all the characteristics of a typical marasmus care. The Day Care Centre has been started by the local youth seva sangam getting a grant from the State Social Welfare Board. There were about 25 children and two teachers in the Centre. Both the teachers are active members of the Matharsangam. Except this particular child, all the other children were apparently healthy.

On enquiry the FSDC staff came to know that the child is from a very poor family. Her mother is an agricultural coolie (daily wage). She goes for work leaving the child in the Centre. She had neither the means to improve the child nor concern for the child. Hence, there was no use of educating the mother on cheap protein rich food. So the Social Workers of FSDC requested the Matharsangam members to help the child by giving puffed bengal gram kanji (grul) atleast twice a day.

The president of the Matharsangam came forward to give the Kamjee if somebody could meet the expense. The social worker collected money from a well wisher for the purpose. The next day puffed bengal gram kanji was prepared by the president of Matharsangam and given to the child both morning and evening. With in a month there was remarkable change in the child. She started walking slowly. To the surprise of the president of the Sangam the child sometimes walked up to her residence whenever there was delay in giving the *Kanji*.

Within a short period the members identified another marasmic child in the centre. When they saw a remarkable improvement in the first child they slowly weaned the child and started giving Kanji to the next child.

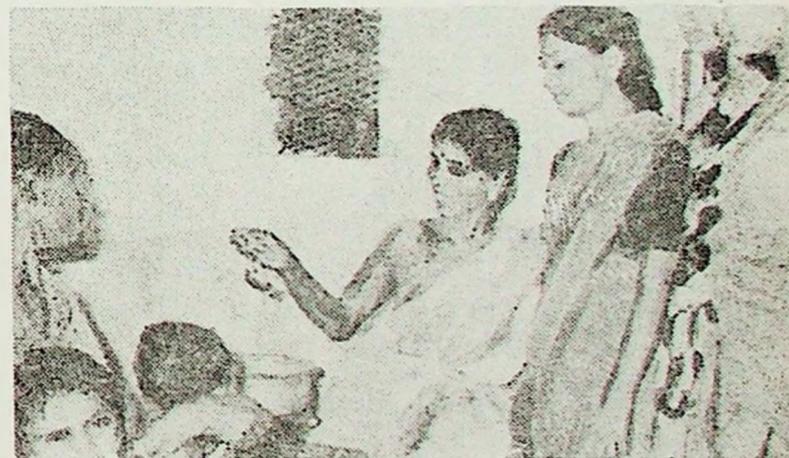
Moreover, they started propagating the value of puffed *bengalgram Kanji*. At present they utilize every opportunity and situation to educate the mothers.

The Matharsangam members were well aware of the condition called marasmus and how it could be treated in the village itself at no extra cost. Previously it was



*A member of the FSDC staff explaining the importance of giving puffed bengalgram Kanji atleast twice a day to the child.*

all theoretical knowledge. Only when they faced a problem and shouldered the responsibility of improving the condition of the affected child the theory was put in to practice. When they practised they could see the improvement. The improvement enhanced their confidence. Finally confidence led to adoption and wider participation.



*The staff members utilized every opportunity and situation to educate the mothers on nutritious diet.*

Thus motivation to these mothers brought interest and promotion in health of mothers and children. This is a very good case example where the Field Health Workers can really assess the impact of educational component gone into the approved methodology of Integrated Rural Development Project.

Field study Demonstration Centre of State Health Education Bureau, Dte. of Public Health & Preventive Medicine, Tamil Nadu

# WORLD ASSEMBLY ON AGEING

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The World Assembly on Ageing, which has been four years in the making, met in Vienna from 26 July to 6 August 1982, to discuss the ramifications of the dramatic demographic change, and what could be done to plan for "the age of Ageing."

The Assembly, had drawn thousands of participants, and delegations from over 100 countries. The Assembly discussed not only the social and financial impacts of continuing demographic changes, but the "humanitarian issues", the severe problems that the ageing face in many parts of the world and that hamper their right to full, independent and productive lives.

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**T**HE World Assembly on Ageing (WAA) opened on 26 July, 1982, in Vienna, Austria, after an address by the Federal President of Austria, Rudolf Kirchschlaeger. In his statement, the Austrian President said that to make the life of the elderly and ageing better, more humane and worthwhile on an international level, the main goals of the United Nations set out in the Charter, had to be accomplished. To ameliorate the grievances of ageing, it was necessary to raise consciousness and the World Assembly would promote that consciousness throughout the world.

Mr Jean Ripert, Director-General for Development and International Economic Cooperation, who spoke on behalf of the Secretary-General of the United Nations, Javier Perez de Cuellar, said: "this is indeed a significant event, for never before have the nations of the world gathered to focus their attention exclusively on issues relating to ageing and the elderly.

"We are witnessing a definite trend towards a considerable increase in the number and proportion of the elderly in the total population", "just a few years ago, the issue of ageing was first perceived being an important one and of immediate concern for developed countries only. For developing countries, its dimensions or urgency were not regarded to be significant. The question of ageing can no longer be considered a minor issue for the developing countries. Nearly seventy-five per cent of tomorrow's elderly

are expected to be living in the developing regions of the World in the year 2025.

"The number of older persons would reach close to 600 million by the year 2000, and this number was sufficient to make it an issue of international concern."

"Furthermore, the changes that occur in the dependency ratio of an increasing number of old people dependent for their well-being, or eventual sustenance, on younger economically active people will influence the socio-economic systems of all countries irrespective of their levels of development or social and cultural structures.

"The United Nations General Assembly stated in 1978 that the purpose of this World Assembly was to convene a forum 'to launch an international action programme aimed at guaranteeing economic and social security to older persons, as well as opportunities to contribute to national development'. At its thirty first session, two years later, the General Assembly further indicated its desire that the World Assembly 'should result in societies responding more fully to the socio-economic implications of the ageing of population and to the specific needs of older persons'. It is in the context of these mandates that a draft international plan of action has been submitted for your consideration which deals with both

humanitarian and developmental issues relating to the ageing.

"The ageing must be viewed as an integral part of the population, and considered as an important and necessary element in the development process. It recognises, however, that at the same time, policies and programme are necessary to respond to the specific needs and constraints of the elderly....."

#### **Dr Mahler's address**

"All countries of the world, both developed and developing, should identify with the goal of a level of health for all the elderly citizens of the world that will permit them to lead socially and economically productive lives", urged Dr Halfdan Mahler, Director-General of the World Health Organization (WHO), in his address to the World Assembly.

Dr Mahler emphasized that the cultural heritage that favours the well-being of the elderly within the family is a heritage that the developing countries should do all to preserve before it is too late. "May I suggest", he added, "to the industrialized societies that they relearn this lesson from those that may be economically poor but retain their cultural richness, as expressed for example in the biblical commandment 'Honour thy father and thy mother'."

He further said that the problems are world-wide. Developing countries would have to face them no less than developed ones. If, in 1980, more than half of the world's 260 million elderly lived in developed countries, by the year 2000 almost three-fifths of the planet's elderly, expected to number by then 400 million, will be in the third world.

Referring to the difficult political and economic situation of the present world, Dr Mahler, said "international efforts for health and better ageing provide little comfort given the magnitude of the world's divisions on other issues. But we must build upon the slender foundations of international actions that do exist, for it is a tragic irony that, at the very point in time when human beings as individuals begin to live out their lifespans, the human species comes closer and closer to the risk of extinction".

Mr. William M. Kerrigan, Secretary-General of the World Assembly on Ageing, said he looked forward to a world in which the new and the old and the young and the old would no longer be stereotypes by which anything was measured. Each would be

valued and given its proper role irrespective of such irrelevant categories.

#### **Impact of industrialization**

Among the many issues the Assembly considered was the impact of industrialization on the family and its ability to care for elderly family members. This issue involved the question of the gradual mechanization of agriculture, which is eliminating jobs in rural areas, and the continuing trend towards migration to the cities, which has left many elderly without adequate support systems to replace the extended families they once had.

The other problems are of older people who may face mandatory retirement, or who are not psychologically prepared for retirement. In countries where workers do have pensions, the pensions may have been eroded by inflation. There are also the growing problems associated with the institutionalization and "marginalization" of the elderly.

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**By the year 2025, the old will outnumber the young in many countries. In the last few decades, improvements in health care have meant that life spans are increasing all over the world. In 1950, the average life expectancy at birth was only 47. By the year 2025, the average life expectancy is expected to be 70 years.**

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#### **Plight of older women**

The Assembly also considered the particular plight of older women, who live the longest, who, therefore, comprise the vast majority of the elderly, and who are the poorest.

They are often left without adequate incomes because they earn little of the world's income (10 per cent), own little of the world's property (1 per cent), and because Governments may not recognize their life-long service to their families as constituting work.

Twenty-seven reports had been submitted for the Assembly by various organs of the United Nations system, and dealt both with broad developmental issues and specific problems in areas such as health, housing, education, employment and income security, and social welfare services. They provided factual information and in many cases recommendations.

Some of the reports suggested that there was too much of a tendency to club together the problems of the ageing in different countries and regions and even different age groups of the elderly. In a developing country, with a short average life-expectancy, 47 may be old. The problems of a 60-years-old are different from that of an 80-year-old. The very aged, those over 80, have different sets of problems, and this is a fast-growing age group. According to the demographic report submitted to the World Assembly, there will be over 25 million women and men over the age of 80 in China, the world's most populous country, in the year 2025.

The World Assembly on Ageing, like other United Nations Conference, was not expected to solve all the problems facing the ageing overnight or in the next 10 years, or even by the year 2025. Nor could the Assembly impose solutions on the 157 countries that are Members of the United Nations, each with its varied social and cultural traditions and values.

#### Exchange of experiences

Rather, the Assembly was meant to be a forum for the exchange of experiences, and an opportunity to think ahead and plan for the inevitable result of development and social progress.

#### Unnoticed sufferers

Mrs. Hertha Firnberg of Austria, President of the World Assembly on Ageing, said in closing the session that although the world was in a serious economic recession and governments might find it difficult to devote all of their resources required for the welfare of the elderly, it must be appreciated that as a rule the elderly suffered unnoticed by the rest of the society.

(Continued from page 44)

we have selected we must keep ourselves at least with the latest knowledge having sound background of our culture and religion but not in narrow sense) which shall enrich our knowledge for proper understanding.

(5) *Īśvarapraṇidhāna* (Devotion to God):—From a wider out look devotion can be called the faith in which we believe. We should devote ourselves to be understanding of what it is. What we are; what we think; why we think; what is the nature of the reality and that there are several ways to realize this reality. We have to resort to *Īśvarapraṇidhāna*. For a Hindu, it is VISNU RUDRADI PUJANAM.

(About are the aids for mental health of an individual). Patanjali has advocated the necessity of it to

Their contribution to national life in their active years must never be forgotten.

Among the recommendations, the plan of action, which was adopted by consensus, emphasized the need to help the elderly "lead independent lives in their own family and community for as long as possible".

In areas such as health care, the plan of action stated that "all too often old age is the age of no consent". Decisions affecting the ageing are too frequently made without their participation. This particularly applied to those who were very old, frail or disabled.

The elderly should be given a choice as to the kind of care they receive. "The control of the lives of the ageing should not be left solely to health, social service or other caring personnel, since ageing people themselves usually know best what is needed and how it should be carried out", the plan stated.

**The section on health emphasized the importance of preventive care, including nutrition and exercise, and contained a wide range of recommendations in such areas as accidents, inappropriate use of medication, and the effects of radioactive and other noxious substances that can affect increasingly ageing populations.**

The plan of action noted that appropriate support could make "a crucial difference to the willingness and ability of families to continue to care for elderly relatives". Thus, governments are encouraged to provide support services to assist families in the particularly low-income families. △

develop an integrated personality which can stand up to any situation.

It can thus be concluded that *Asana*, *Prāṇāyāma* help us to maintain good physical health and *Yama* and *Niyama* on the other hand create positive healthy psychological outlook. When a man can remain without mental frustration, free from tensions and can return to simple living and high thinking, I am sure, that it's the way of our life. And I have no doubt once again it is to be the way of our life. It shall contribute to the better psychosomatic condition of the individual and healthy society. Where old age will not be felt as old age—it will be respectable old and healthy age. △

## A DRAMATIC SUCCESS FOR RADIO

A Stanford University study released by the Population Institute, New York, shows that a radio programme in Costa Rica has been largely responsible for a sharp reduction in the birth rate in that country. A 20-minute programme called Dialogo, produced by Costa Rica's Family Orientation Centre, is broadcast twice daily throughout Costa Rica, once during the early morning prework period and again in the evening. It is the only regularly scheduled programme designed to teach human sexuality education.

The Stanford study also showed that Dialogo has not only reached its priority audience—low-income individuals—but it has also affected their knowledge, attitudes, and practices in matters of human sexuality. The findings in the study go against expectations based on other media research, which indicate that in family matters only the upper—and middle—income groups are reached. With Dialogo poorer people are reached in greater numbers and are more strongly affected.

While the use of radio to communicate ideas is not new in Central America, the objective and content of Dialogo make it different from any of its predecessors. It is designed to teach its listeners about themselves, their sexuality, and their relations with others. Its priority audience is low-income Costa Ricans in the city and the countryside. While other agencies were opening family planning clinics, the Family Orientation Centre chose to launch Dialogo 13 years ago on the promise that before Costa Ricans made family planning decisions they should have all the necessary information.

Dialogo is a simple programme. Professionals and religious leaders talk about such topics as the need for family planning, sexuality, women's rights, and the religious aspects of the subject. Listeners are asked to send in questions about any phase of sexuality that may concern them. In its 13 years on the air, Dialogo has received more than 20,000 letters.

During the years the programme has been broadcast, Costa Rica has experienced one of the sharpest reductions in birth rate of any country—from 3.8 per cent to 2.7 per cent according to the Population Reference Bureau.

The report, An evaluation of Dialogo: human sexuality education through radio in Costa Rica by Felipe Risopatron and Peter T. Spain, is available from the Population Institute, 777 United Nations Plaza, New York NY 100 17, USA.

While television is a luxury item for most people in the developing countries and utterly impractical in many villages, and while the press is an excellent medium of education for those who can read, it is radio that has proven to be the "go-everywhere, reach-everybody" information resource. Because most radio is local and can communicate in familiar language and dialect, it is now seen as a truly important system of communication and one that has been less used than it should.

—International Dateline, July 1981.  
(From: World Health Forum Vol. 2, No. 4, 1981)

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(Continued from page 49)

### WHO programme

To help prevent and manage diarrhoeal diseases, the World Health Organization (WHO) established in 1978 a global Diarrhoeal Diseases Control (CDD) Programme. This Programme has as its immediate objective a reduction of the mortality caused by acute diarrhoeal diseases. Its longer-term objectives are to reduce the morbidity caused by these diseases and their associated ill-effects, particularly malnutrition, in infants and young children and to promote the self-reliance of countries in the delivery of health and social services for their control.

To attain its objectives, the CDD Programme has been built up on two main components: a *health services component*, through which WHO cooperates with Member States in the development of national programmes of diarrhoeal diseases control as a part of primary health care, and a *research component*, through which support is being given to applied research to determine the best ways of applying available knowledge in national programmes, and to biomedical research to find new tools for control, especially new and more effective vaccines and drugs.

—Courtesy: WHO

## YOUNG PEOPLE AND SMOKING

A worldwide campaign is on to educate people about the serious health hazards (including heart attacks) caused by cigarette smoking. While more and more adults are quitting smoking, unfortunately, more students and children especially girls in advanced Western countries are taking to the bad habit. This is a matter of serious concern. By a study of the problem the reasons for young people taking to smoking have been ascertained.

Young people usually begin to face pressure to smoke between the ages of 10-15. This is the age when children move away from their parents and families and get closer to their friends. This is also the time when they begin to rebel against adult authority and are willing to take more risks. Knowing this may help parents to understand some of the reasons why children start to smoke.

Some of the reasons are:—

1. A feeling that smoking is fashionable and will enable admission to higher strata of society.
2. Easy availability at home of smoking materials like cigarettes, lighters, ash trays, etc.
3. Exposure to smoking at home.
4. Smoking is a show-piece method of indicating virility.
5. Influence of advertising.

A first step, therefore, to prevent young people from taking to smoking is that smoking should not be allowed at home either by the inmates or visitors. If this step is taken children will come to know that smoking will not be accepted by their parents or elders who may be living with them.

Courtesy: *Heart News*, July, 1982

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(Continued from page 36)

Medicalization of the problem and taking effective measures by the health teams has not shown and is not likely to show the desirable results.

The problem, therefore, has to be tackled at the socio-economic and political levels. Unfortunately many developing countries have neither appropriate legislations nor the means to enforce even if such legislations are enacted. It is not surprising, therefore, that international companies are publicising private pressure advertisements to promote smoking in the developing countries and are making huge profits. On the other hand many developing countries depend upon tobacco leaf as one of the main sources of foreign currency earning.

India produced approximately 455.6 million kg. of tobacco from 428.2 thousand hectares in 1980-81 and plans are afoot to increase the production further.

If we realized that 80 per cent of the tobacco is consumed within the country then the onus of responsibility falls upon us and political leaders to take appropriate measures to see that this does not harm the health of the millions of our countrymen.

We shall have to adopt a national policy based on sound socio-economic foundations and take measures at different levels of governmental agencies with the departments of agriculture, social welfare, labour, health and finance and associate other national, social, cultural, religious voluntary organizations so that the evil of smoking and use of tobacco can be controlled and perhaps eliminated totally to ensure better health for our coming generations. △

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OUR NEXT ISSUE IS A SPECIAL NUMBER

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## BOOKS

**Contraceptive effect of breast feeding (editorial).  
Houre, PW and McNeilly, A.S. Journal of Tropical  
Pediatrics 1982 Feb. 28(1) : ii—v.**

It is well established that breast feeding mothers experience longer interbirth intervals and longer post partum amenorrhea than mothers who do not nurse their babies. Adequate interbirth intervals are important for maternal and child health as well as having profound demographic consequences. In developing countries, where the use of artificial contraceptives is low, the contraceptive effect of breast feeding is of major importance for the individual and the community breast feeding and artificial contraception should not be regarded as alternatives which are mutually exclusive but as complementary methods of fertility control to be used together. It is important that infant feeding policies are formulated only after full consideration has been given to the contraceptive effect of breast feeding.

From : Highlights from Current Health Literature, Sept. 1982 No. 13.

**A review of the literature on access and utilization of medical care with special emphasis on rural primary care. Fielder, JI. Social Science & Medicine 1981 Sep.: 15C (3) : 129-42.**

Over the past 35 years medical care resources in the United States have become increasingly concentrated in medical centers and university hospitals of large urban areas. This trend has left inhabitants of rural areas increasingly relatively deprived of access of health care resources. More importantly, this relative deprivation of access to medical resources has been a key factor explaining ruralite's deprivation in the utilization of those resources.

Although policy makers have been aware of the evolving structural pattern of the industry for some time, to date they appear unwilling and/or unable to fundamentally alter its continued growth and development. This review describes various forces influencing this developmental pattern at both the individual and the system (macro) level. It further dis-

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cusses how government health policy, the characteristics of the health delivery system and the characteristics of the US people transactionally relate to affect access to and utilization of health care resources.

**Public participation in health care. McKeith, JS. Hospital and Health Services Review, 1982 Feb.: 78(2) : 49-51.**

Involvement of the community in health care is not a rejection of the service provided by professionals, but rather an assertion that people have the right to take part in matters concerning health. Not only is health too important to be left to professionals, it cannot be achieved without the active participation of the individual and the community. Functioning of separate movements like Community Health Councils (CHCs), patient participation in primary health care, role of community development in health, self-help or mutual health groups are reviewed. It is likely that forms of public participation will grow and develop stimulating established health services to adopt and become more open and responsive.

From: Highlights of Current Health Literature, Vol. 1  
No. 15, Oct. 1982

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