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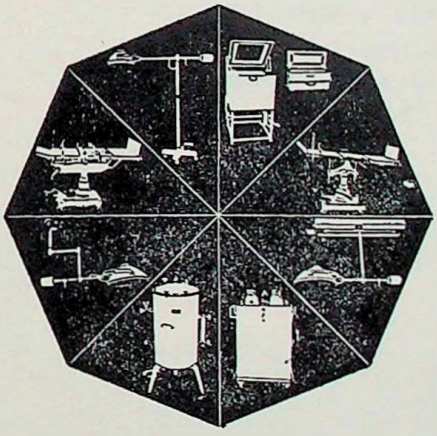

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EDITORIAL

Health : beyond medicines

It is told of an incident in one of New York City's big hospitals. A patient there called for a minister. The minister walked into the room and realised that the man was a complete stranger. The patient told the minister "I know you. I have heard you preach several times. I ask you to come because I want you to get me out of this place". The minister was puzzled. "You mean you are here against your will ?" "No", the patient replied. "I am being given the medical care I need. I know that. As a matter of fact I am a physician myself. But you are the only kind of a doctor who can get me out of this place once and for all." "I am sorry", the minister said, "I still don't understand". "I have got a stomach ulcer" said the patient earnestly. "And do you know how I got it ? By hating ! By getting angry and hating ! I want you to show me how to quit. Because if you can teach me how to get some serenity, then, with the treatment I am getting here, I will be all right".

The pastor was silent for a moment. Then he said, "I see you have a Bible on your table. Do you use it ?"

"Oh, I read it. But my trouble is that I don't know how to practice what it teaches. You go ahead ! You show me how ! Read it to me. Give me the works !"

The pastor agreed to this rather unusual request. He out-lined a technique for the physician. He asked him to confess all his resentment and hatreds and the wrongs he had done, then to ask for forgiveness. "Don't just believe that God is going to forgive you sometime or other", he added, "but that He already has done so, even while you ask".

The physician eventually got well. Gradually be understood the importance of religion; he discovered the wisdom of not being self-centred. Finally he was happier and healthier, than he had ever been.

There is no doubt that what we think and feel has a vital effect on our health. There is a real connection between our state of mind and the state of our health. Our attitudes, our philosophy of life, our goals, our ethical ideals, all these are big factors in our physical well-being. It seems that a very high proportion of the illness is caused by fear, anger and guilt. These three emotions are the three great enemies of health.

What is our attitude towards health care ? Are we treating the symptoms or the persons? What emphasis do we put in the health care system in our institutions? Are the medicine and high technology centred or person centred? Many more questions like these will have to be asked and proper answers found if we want to find meaning in our healing ministry and make it relevent to today's situation particularly in our own country.

Pastoral Ministry and Natural Family Planning in a Hospital Context

—Rev. F.V. Ferrier

Early History

In the fall of 1960, I was studying Medical Morals with the late Fr. Gerald Kelly S.J. I proposed to present a study on the argument against contraception. Fr. Kelly counseled me not to spend energy in this He judged there was not much value in focusing on motives for or against contraception. He argued that people would accept the position only if they accepted that there was a natural law and the acceptance of the existence of God. He was convinced that arguments do not bring anyone to hold either a position based on natural law or the acceptance of God's existence; arguments only manifested the reasonableness of both.

This connection comes back to me at this time telling me how longstanding has been my interest in Natural Family Planning, also helping me understand how accurate Fr. Kelly's insight was in the light of my own experience.

My first experience in a hospital as a chaplain was in November 1963 as part of my final year of Jesuit studies. The way we worked where I was stationed was only as dispensers of the Church's sacraments. We were not to counsel with patients or staff. There is little similarity with that first experience and my current ministry in a hospital.

During that first experience as a chaplain I had no involvement with Natural Family Planning directly.

After studies I spent fifteen years in the Jesuit school in Houston, Texas, USA. My main work was as Registrar. I still had opportunities to express my interest in caring for persons. Outstanding among those opportunities was becoming a presenting priest with the Marriage Encounter Movement. This brought me into close pastoral contact with many families.

During this period *Humanae Vitae* was published and immediately become a point of intense controversy in Houston. My efforts to uphold Paul VI's teaching of the Church's position was highlighted by two experiences.

One evening I was a guest in the home of some Catholics who were publicaly very verbal against the teaching of *Humanae Vitae*. I was able to show that I understood what they were saying. I was then able to call them to enter into the Mystery of who we are as the Church, for they were having a deep conflict with authority.

The second evening was with Marriage Encounter couples in an intense discussion regarding sexuality and the Church's teaching. The call there was to mature acceptance of responsibility and to realization of their being revered and respected by the Holy Father. The focus was on Pope Paul's admonition not to exclude those having difficulties from participating in the sacramental life of the Church. As yet the Ovulation Method for Natural Family Planning was not present.

From August 1979 until August 1982 I was a chaplain in St. Mary's Hospital in Galveston. St. Mary's is a Catholic Hospital and the oldest private hospital in Texas. It is about 50 miles south east of Houston. During this time I met Sr. Catherine Bernard and got

to learn from her the ovulation method of natural family planning.

Shortly thereafter Mrs. Harrigan came to Galveston to assist Sister in presenting the Ovulation Method for Natural Family Planning to the staff from the Family Life Clinic that is connected with the University of Texa's Branch in Galveston.

Of significance was the fact that the doctor that is now the head of St. Mary's Ob-Gyn service attended that basic presentation.

Later the Education Department would invite Sister to present the Billing's Method to two groups in St. Mary's Hospital as part of their inservice training. The presentations were to a cross-section of the personnel, then to the nursing personnel on the Ob-Gyn service. At the time of the presentation to the nurses I made an explicit effort to get one or more nurses interested in becoming teachers of the Ovulation Method. This latter efforts is still progressing at the time of this writing.

In addition to what has been listed above in which I had some Part—Sister Catherine used her talent and knowledge helping individuals both in St. Mary's Hospital and outside.

Also, Sister introduced me to a number of persons who were interested in the Ovulation Method of Natural Family Planning.

Once Sister was able to depart—in-February 1982—I saw myself as having an opportunity to make her efforts continue and bear fruit.

Personal Efforts

From and through Sister I had received much literature on the Billings' Method. In addition I personally purchased a number of copies of "The Ovulation Method of Natural Family Planning" by John J. Billings, M.D., and gave them to appropriate persons, using them as a teaching aid.

I taught the philosophy and the method of Natural Family Planning to a number of couples and individuals both in and out of St. Mary's Hospital. Upon reflection I became concerned about what I was doing teaching the method. Was there sufficient follow up? Was I focusing on my need and anxiety rather than ministering in a sound manner ?

As I faced these questions I stopped my efforts to teach the method and began to work to get the Education Department more actively involved.

The Education Department would have to sponsor teaching the Ovulation Method of Natural Family Planning if it was to have a lasting value in St. Mary's Hospital and if it was to be officially accepted by the hospital.

My hope was to have a NFP Clinic sponsored by the Education Department.

To assist the Education Department I purchased three sets of slides for teaching purposes. I made a cassette tape explaining the slides. I turned all of this over to them. They would have the basic equipment for begining a teaching program. They still needed to have the freedom and the trained personnel.

After I made my reservation to attend the Seminar in Houston a very significant thing occured. The Catholic Hospital Association of the United States sent an inquiry to St. Mary's Hospital concerning what was being done to make Natural Family Planning available both to the patients and to the larger community. Administration directed the questionnaire to Pastoral Care Coordinator realized that the Education Department was the appropriate group for answering this inquiry; so the Pastoral Care Coordinator and I answered the questions and then passed the form onto the Education Department for their

concurence; then it was returned to Administration. The answer given showed we were sputtering to do something but were really doing nothing that was of value—even though we wanted to get going. At last ! the hospital officially accepted that it was responsible to do something.

The arrival of the questionnaire charged the complexion of my attending the seminar in Houston. The hospital chose to send me- to pay my transportation and tuition-as well as one member of the Education Department. No one was available from the Education Department, so I went alone.

During the seminar I finally got to meet Dr. Hann Klaus whom Dr. Catherine Bernard (Sr. Catherine) had mentioned so frequently.

Dr. Klaus held two additional workshop that I attended: the first was to acquaint priests with the Ovulation method of Natural Family Planning as well as to introduce them to some couples in the diocese who were involved with NFP; the second workshop was for hospital personnel.

I had the presentation for the hospital personnel recorded and the recording sent to St. Mary's Hospital's Education Department. In that presentation Dr. Klaus, made it very clear that NFP belonged to the Education and not in the Medicine services in the hospital setting.

On returning I made all the procedings available to the Education Department.

One very supportive experience was being alerted by the Education Department regarding the "Natural Family Planning" television tape recently acquired by the Nursing Education Department of the neighbouring Medical School. The nurse in the Education Department and I reviewed this program with joy and hope to eventually have it available to show through St. Mary's television system. It was worth obtaining by budgeting fund.

My presence at St. Mary's Hospital was quickly drawing to a close. I wanted to be sure that I did all I could before leaving to have a Natural Family Planning program planted.

The Education Department was interested in getting the backing support of the doctors and nurses in the Ob-Gyn service. They also wanted to get some personnel trained to handle the one-to-one aspects and group classes.

The head of the Ob-Gyn Department was interested in establishing Natural Family Planning in St. Mary's Hospital, but the communication between the groups seemed bogged down.

At this time St. Mary's Hospital was changing administrators. I asked the sister for insight into why the efforts to make things move were so apparently unfruitful. She suggested that I should go directly to the doctor who was the head of Ob-Gyn.

Before doing this I contacted doctor in the Sisters' Houston hospital who was one of the main supports for NFP in the diocese. He offered to consult with the doctor in St. Mary's.

I met the doctor and shared my anxiety and fustration as well as my aspirations and desire to facilitate getting a Natural Family Planning service going. I told him of my imminent departure and how I wanted to do what I could do before departure.

Once again before departing I met this doctor and urged him to stay with his plan to have the entire effort for teaching the Ovulation Method dependent on getting a couple as teachers but to let it get into the Education Department. I also lent him books of Dr. Billings and Mrs Wilson.

In August 1982 I moved from Galveston to Houston. I continued to call on the

Education Department at St. Mary's Hospital to see what was happening, to encourage and to stimulate whenever possible.

I again talked with the doctor to find out how it was progressing from his perspective and to reclaim the books so that I could make them available for others.

In November I made a trip to the Education Department to follow the progress. I was able to help clarify that the project was dependent on the Education Department rather than on the doctor. Also I was of assistance in focussing on the practical necessities of having teaching space and funding.

I learned on that visit that the Education Department has obtained the service of a certified NFP teacher to train their personnel. I also learned that they are working to coordinate schedules with the teacher and the doctor, so some necessary meetings can be had finally establish a program.

As of this writing the doctor plans to present the Ovulation Method to the Ob-Gyn D epartment in his next inservices presentation. Further, he personally was planning to attend the programme Mrs. Harriggan had in Corpus Christi, January 14-16, 1983, and was getting the hospital to send members of the Education Department as well.

The impression the Education Department is giving me now is that this effort to open a Natural Family Planning service in St. Mary's Hospital is progressing much more rapidly than do many similar projects.

Looking back, however, I have a sense that his effort is similar to trying to move a sitting elephant. It is possible, but it is not easy for the untrained.

In addition to this efforts to establish a Natural Family Planning Center/Service in St. Mary's Hospital for the Galveston area, I have also been seeking to bring NFP into the Corpus Christi Parish Community in Houston–the parish in which I am presently residing.

There are regular announcements in the Church's bulletin urging parishoners to call for information; I then put them in contact with a certified teaching couple.

Again, this is very slow. I think this slowness is due to to lack of desire or interest on my part but to my limited "know-how" in proceding.

Gradually I'm seeking to bring the Ovulation Method of Natural Family Planning into Hermann Hospital where I am presently a student rather than a teacher. I have established contact with personnel in the Patient Education areas, and I am learning what are the practices and procedures within this hospital. As of this writing there is one of the services that has some of my materials and is showing some interest.

Reflections

As I reflect about this presentation there has been a point that is repeatedly present to me : share my own experience—that's the unique gift I have to offer.

On the surface I have the experience of fear that I am impotent in furthering Natural Family Planning.

I react to my fear by wanting to blame others. I want to blame my "Pill-popping" culture. I want to blame the disinterested and ignorant medical professionals. I want to blame the sense of indifference and even alienation some fellow Catholics have shown since *Humanae Vitae*

These may have some blameworthiness, but not for my sense of impotence.

I see my culture is contrary to Natural Family Planning. If it were not, Sr. Catherine would have set Galveston aglow through her efforts. Further, my efforts from the vantage point of hospital chaplain would have engered enthusiastic, positive responses. Seeking to inspire and motivate others is painfully slow.

These reflections bring me back to what Fr. Gerald Kelly had told me in 1960 : a position based on natural law is either self-evidently accepted or it is scarcely possible to convince anyone of it.

I can and have used pastoral authority to move people to respect Natural Family Planning, but I cannot convince anyone of it's merits from reason alone.

As I seek to get even more in touch with my experience I see I have an assumption and an attitude that affect me in my effort to share NFP as a pastoral care person. My assumption is that anything so good as NFP should automatically ignite enthusiasm in who ever learns of it. "My attitude is that "others should see things the way I do".

As I look at my assumption—that NFP should automatically ignite enthusiasm in whoever learns of it—I discover that this is not really true in my own life. It really is not NFP that has motivated me to do whatever I see I am able to further it but rather my coming to know Fr. Kelly and Sr. Catherine and their enthusiasm.

To put this another way, it's not the idea but the person-to-person relationship that has made me very interested and committed to NFP.

I conclude that my assumption that NFP should automatically ignite enthusiasm is possibly commendable but is very naive.

Further, when I review my attitude –that others ought to see NFP the way I do—I see this compromises my love and respect for others, I see I am seeking to have others be the way I want them to be rather than accept and love them the way they are.

Admitting this is painful for me, I tend to presume other persons who do not see things my way are wrong. I see them as inexperienced and missing out on so much ! It would make me feel good and powerful to change them and make them to be my way !

I have to change my attitude now, I have to accept that my Pastoral Ministry in the Hospital Contest calls me to slow—and occassionally discouraging—person-to-person contacts with the educational personnel to make the Ovulation Method of Natural Family Planning available. This has to be my way of caring for people by providing the blessing of the Method for them.

Realizing and accepting this truth has been and still is shocking but it is contact with reality. This is the path I now use to bring this gift to others.

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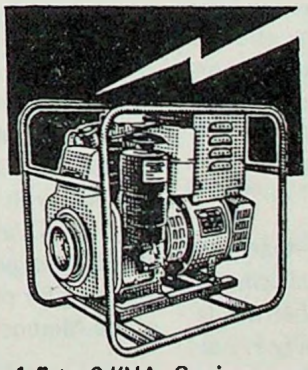

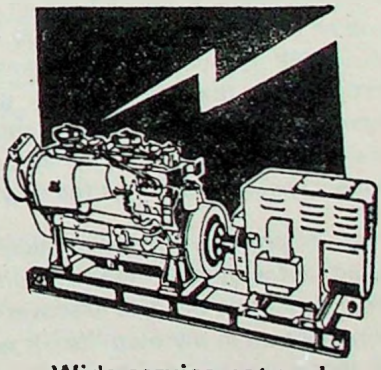

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Trained to over prescribe ?

—Mira Shiva

Health Needs and Medical Care

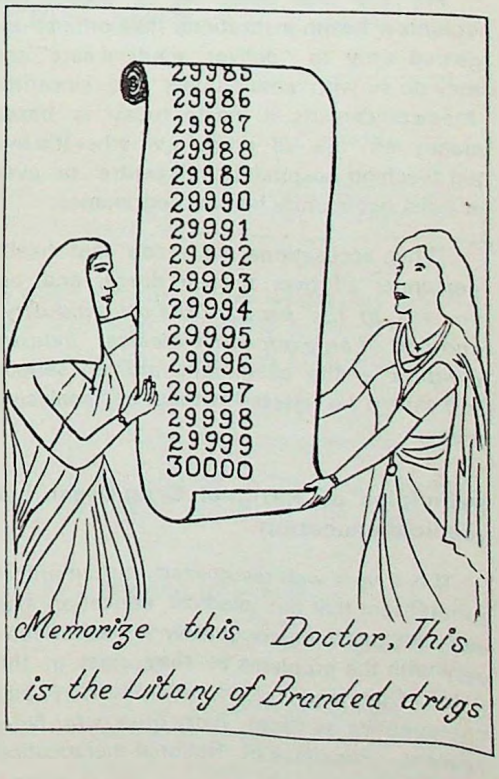
Today there is better understanding of HEALTH as well as the recognition of the implicit relationship of disease with UNMET BASIC NEEDS OF FOOD, CLEAN AND ADEQUATE DRINKING WATER, CLEAN ENVIRONMENT. All that goes on in the name of 'Medical Services' at constantly increasing costs, is being increasingly questioned by more and more people today.

For approximately 60-70% of Indians below or around poverty line no amount of medicines 'modern' or 'traditional' can deal effectively with most of their health problems having their roots directly or indirectly in poverty.

(The well off can afford adequate care for themselves and don't really need us.)

We, the health personnel realize the limitations of our role even as *'deliverers of curative and medical care'*, we are unable to help with, and ensure *consistent supply of adequate nutrition* even after we have made an accurate diagnosis of *second or third degree malnutrition with multiple vitamin deficiencies*. Even while we go on diagnosing and dealing with serious and fatal diarrhoea, (the childhood killer number 1,) we somehow cannot ensure adequate supply of clean water.

On looking back we realize that we were never trained to be "facilitators of health." in the real sense of the word. Actually some of us sincerely believed in the importance of health education, in prevention of disease. Unfortunately we found that much of the health education 'given' in all good faith does not necessarily result in changes in 'attitudes or behaviour.' The subtle but crucial difference between *"giving of health education"* and *"being able to communicate, be listened to, be 'heard' and understood"* was painfully realized only with experience in the field.



Realization of this, as well as realization

— The pressing health needs of the people who needed us most

— The limitation of our training which does not equip us to deal with their problems effectively

— The expected and traditionally accepted role of voluntary health institutions

— *The obvious need for the changing role of health institutions, towards more relevant functioning, leaves many of the more sensitive and socially conscious health personnel from service oriented health institutions facing a moral crisis and dilema.*

For the time being let us accept, that voluntary health institutions (like others) are geared only to "deliver medical care" and they do so with commitment and sincerity. Medical care as it exists today is based mainly on 'use of drugs', whether it's in a big teaching hospital, health centre or even in most community health programmes.

When accusations are made that health personnel all over misuse drugs, and are *"pawns in the hands of the drug industry" and part of an exploitative medical industry complex"*— the allegations are very serious and cannot be rejected without as analysing them.

Principles of Rational Drug Use in our medical education

It is a very well recognized (but an unfortunate) fact that our medical education has not equipped us adequately to deal effectively with the problems as they exist in the field. Our teaching of pharmacology and Therapeutics is from *Ivory towers for Ivory Towers.* Principles of 'Rational therapcutics' are not taught keeping in mind the conditions under which the health personnel will have to be functioning in the field i.e.

— *With limitation of diagnostic facilities* and of supportive staff.

— With *heavy workload* and pressure of time & *diversity of function*

— With *financial constraints* with ever increasing deficits

— *Shortages of drugs*

— *Little or no referral facilities* or *help in consultation*

— Long *distances* and *Hopeless transport facilities involved,* which make revisits by *patients for reports* and *follow-up* difficult

To *deal effectively with all these constraints calls for constant innovativeness, initiativeness, skills, concern and commitment.* It is a fact that those *"undrained brains"* meeting all these challenges in the field to the best of their ability are worthy of deep respect

Unfortunately in many cases as the different constraints increase, the situation deteriorates in the *absence of authentic need biased drug information with no facilities for meaningful ongoing medical education* to certain lacunae begin to occur—unwittingly. Our medical education never geared us for dealing with these lacunae.

Inspite of the encylopedic knowledge of pharmacology we acquired, we find ourselves totally foxed when confronted with hundreds of unheard of drugs. We are unable to *critically evaluate,* from amongst the *hundred of brands* of the same product, —the most rational product to stock our pharmacies with and to prescribe.

Our entire medical education is based on the use of *generic named drugs* and that too

mostly single ingredient drugs. The medical journals also use *non-proprietary generic names* and then we walk into the world of Brand names—of which there are 30,000 in India. Many health personnel don't see the unreasonableness of the brand names—*till confronted by a critically sick patient with numerous prescription slips full of unfamiliar brand names*. The realization that most of these are *combination* drugs with varying contents of ingredients makes it all the more complicated to figure out what was prescribed and actually consumed.

Our education does not equip us with a thorough understanding of :

— our *country's health & drug policies*

— our *people's health needs and health priorities*

— the rationale behind *generic drugs* over brand names

— the existing *drug control mechanism* and its ineffectiveness

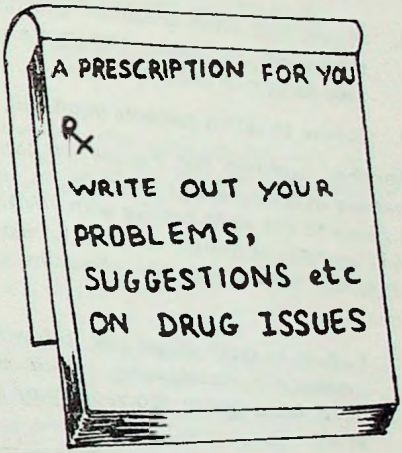
— concept of *essential drug list* and its relevance for a developing country like ours

— *irrationality* of most *combination drugs*

— the various *hazardous drugs banned in various countries* which should not be allowed to be manufactured, marketed and prescribed

— the half truths and *biased drug information* fed by the drug industry on which the health personnel tend to depend in *the absence of EASY ACCESS TO UNBIASED MEDICAL DRUG INFORMATION.*

According to the working group on Rational Drug Therapy of WHO, out of 17 ways



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in which doctors misuse drugs, the commonest is overuse. *Over use of Drugs* means :

— too large a quantity of drug

— for too long

— prescribing of an unnecessary drug

— prescribing of many drugs adding no additional benefit for the same purpose

Factors leading to overprescribing

1. Inadequacy of time and facilities for diagnosis.
2. Lack of knowledge of drugs and prescribing principles (over prescribing to avoid risk of underprescribing)

3. Pressures exerted by patients

4. Heavy and often unethical practices, marketing by drug companies and distribution of samples.

5. Desire to retain patients good will.

Another problem for *Failure on part of the patient in taking drugs properly* i.e. *right drug given* to the *right patient* with *INADEQUATE or NO appropriate drug information* may not be taken properly Reasons being :—

1. *Failure to understand and follow the prescribers instructions which may have been given too vaguely or not at all.*

2. Treatment by more than one doctor often of more than 1 system of medicine.

3. Self medication by patient.

4. Stoping premature cessation of drug is due to financial reason,, fear of harmful effects (most allopathic drugs are considered hot), and because of some unacceptable mild side effect.

5. Drug substitution at the chemists

6. Illegible prescription

7. Chemists own vested interest.

Hearing Loss—Silent Epidemic in Schools

Nelly Reyes Ledesma, M.A.

Many people suffer from hearing loss. The universal estimate of the prevalence of hearing loss according to the National Institute of Health in the United States is that one out of fifteen person is affected.

Hearing loss is a problem that is least recognized in the Philippines as an ailment. When it comes to hearing impairment we are backward compared to some other countries in Southeast Asia.

The deaf and hard of hearing themselves are not willing to do much about their problem. They don't even admit that they have impaired hearing.

What does progressive hearing loss mean? It means that :- 1. You ask people to speak up; 2. You turn up the TV and radio louder; 3. You find it difficult to follow conversation; 4. At partieis, you have to concentrate harder on the face and lips of the speaker in order to hear what they are saying; 5. You begin to withdraw from social contacts, have tendencies to become irritable and moody; 6. You make life difficult for those around you; 7. You miss much of the fun of living.

The problem of hearing loss affects the social life of an individual. Take the case of a 32 year-old bank employee who had difficulty understand customers. One day the manager of the bank informed him that due to his auditory problems he might loss his job. The employee went to an audiologist (hearing specialist) upon the recommendation of an EENT doctor and found that his hearing loss which he had for many years could be corrected simply by acquiring a hearing aid. He got one—a near invisible aid concealed in his eyeglasses—and his career improved. He is now an assistant manager of the bank.

There are indications that the hearing problem in our country is getting worse every year.

Loss of hearing is prevalent among the elderly and because of modern science and medicine people are living longer and deafness among the aged is rising.

Preliminary investigations of hearing tests using Elementary School children as subjects conducted by the Bureau of Elementary Education and the author of "Prevalence of Hearing Loss in the Philippines from 1974 Up to the Present" have shown that 15% of children have already been labelled mentally retarded and placed in a school for the retarded because the real problem, loss of hearing, had not been diagnosed.

Some of the common causes of hearing disorders are German measles, chronic ear infections, prolonged medication and noise trend continues ." James Macmahon, Administrator of the New York League of the Hard of Hearing says, "by the year 2000 we won't be able to hear one another without using hearing aids.

Only a small percentage of the estimated 50 million Filipinos suffering from significant hearing loss can be helped by surgery. The majority must be given auditory rehabilitation (hearing aids), speech-reading, auditory training, sign language and total communication or a combination of all these approaches. Advances in miniaturization enable the manu-

facturers of hearing aids to come up with models that can be worn almost invisibly and inconspicuously.

Hearing experts advise that the average person can protect his hearing or make up for what he has lost by doing the following :

1. Have your hearing checked at least once a year by an EENT doctor or an audiologist.

2. Avoid exposure to loud noise. Use earplugs or ear protectors if you will be exposed to loud sounds.

3. If you suspect that you have a hearing loss go to an ear specialist to see if a medical correction is possible. If not, the doctor will refer you to see an audiologist who will measure the extent of your hearing loss, as well as the type and determine if it can be corrected surgically or by using a hearing aid.

4. Contact a speech and hearing centre which generally has an audiometerist on its staff supervised by an EENT doctor or an audiologist.

5. Don't try to hide a hearing loss. Admit that the problem exists and do something about it.

Courtesy : Herald of Health

Tongues are for Tasting

—Goldie Down

I SMILED as I watched our seven-month old grandson's chubby hands carry the wooden toy to his mouth. He lost his grip and the toy tumbled out of reach. Never mind. Tiny groping fingers closed around a felt ball and lifted it mouthwards. Next it was a plastic teething ring, then a bunched-up corner of the knitted rug on which he sat, and finally he grabbed a nearby magazine and chewed the cover to a slobbery pulp.

Psychologists explain the primal urge which forces babies to convey everything they grasp up to their waiting mouths, but I was not thinking of that as I watched his little pink tongue explore the different substances.

"I wonder how sensitive his tastebuds are," I remarked to my daughter. "Do you think he recognised the difference between wood and wooy?"

"He certainly knows that differences in food tastes," she replied. "He loves honey on his cereal, but he actually shudders when his orange juice is sour".

"Interesting, isn't it?" I nodded, and settled back to think about tongues and taste.

Variations

Every normal person has a tongue, but not all tongues appear the same. Tongues vary in size and shape as much as their owners do. Basically the tongue is a movable muscular organ anchored at the inner end to the floor of the mouth. The muscles which lie within the tongue are called the intrinsic muscles. There are four on each side—the superior and inferior longitudinal, and the vertical and transverse muscles. When these muscles contract they change the length, breadth and width of the tongue; they also enable us to "poke out" our tougues and draw them inside the mouth again.

Our tongues help us in speaking, and assist with the chewing; swallowing and tasting of food.

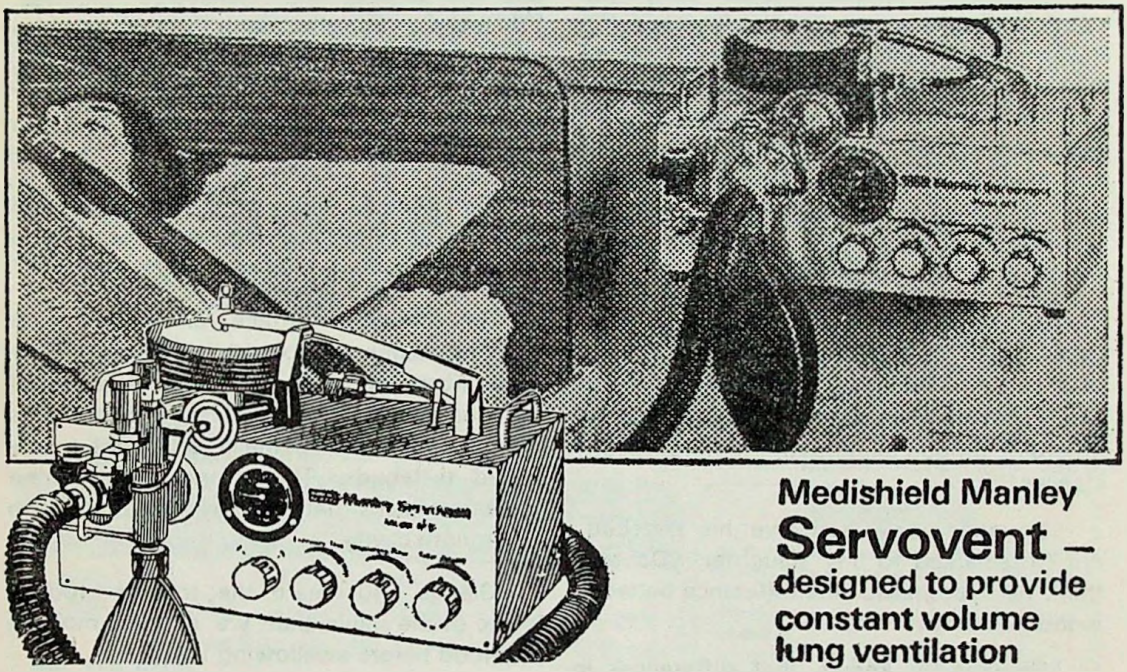
The tongue's surface is covered with mucous membrane which contains many nerve fibres that carry stimuli to the central nervous system. This membrane also contains a large number of epethelial cells, commonly called tastebuds. These are gobletshaped clusters of cells that open by a small pore to the mouth cavity.

Glands underneath the tongue produce some of the saliva that we need to moisten dry food before swallowing it.

The Function of Tastebuds

The upper surface of the tongue does not feel as smooth and slimy as the approximately 3000 tiny bumps or *papillae*, which dot its surface. Each papillae has receptors (tastebuds) on it, and it is these receptors that help us to recognise four basic tastes. The tastebuds at the tip of the tongue are sensitive to sweet things—which is why we lick ice-cream; those toward the back of the tongue taste the bitter things, while those at the edges and sides of the tongue recognise the salty and sour things. The middle part of the tongue appears to be insensitive to any of these tastes.

Some day, your patient's life might depend upon this equipment



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For a long time scientists tried to fit every taste sensation into one of these four categories, but they now realise that the tastebuds sometimes work together—the individual nerve fibres possess mixed sensitivity and respond to more than one basic stimuli. For instance, acid plus salt or acid plus salt plus sugar.

But the tastebuds don't identify any flavour unless it is in solution. Dry foods taken into the mouth must be dissolved by saliva before the taste can be detected. Perhaps that is why foods like nuts have little taste until they are well chewed and mixed to plup with saliva. Conversely, if solution is held in the mouth for any length of time it tends to lose its flavour.

Taste-masking is common, when we try to camouflage one taste (Usually an unpleasant one) with another; such as adding sugar to a lemon drink, or trying to disguise castor oil with orange juice.

Touch Contributes to Taste

Touch sensations originating in the nose and lips and though the entire mouth and throat contribute greatly to our sense of taste—the smoothness of whipped cream or melted chocolate, the crispness of celery, the brittleness of toffee, the sogginess of bread in soup or the lumpiness of oatmeal porridge.

The different, kinds of touch sensation are based on either the physical or chemical properties of the substance or a combination of them. Touch and pressure receptors in the tongue tell us the particle size, texture, consistency and temperature of the heat of pepper and mustard, or the cool sensation of peppermint. Some foods like cucumber, lettuce and boiled rice rely more on texture than flavour to give them taste.

Taste Thresholds

The threshold of taste is much higher than that of smell. In other words you need a great deal more of a substance to detect it by taste than you do to detect it by smell. Olfraction is estimated to be 10,000 times more sensitive than taste. For instance quinine, which is very bitter, needs a solution of only I molecule of quinine to 1 million molecules of water in order to be tasted; sugar needs 1 molecule in 2,500 molecules of water, and salt in 1 in 1,500 molecules of water in order to be tasted.

Once the taste and smell threshold has been established it requires at least a 20 per cent increase before any noticeable difference in taste is effected. If the flavour is weak in the first place it may require as much as 100 percent increase in order to be discernible. Remember this when adding salt, sugar or any other seasoning to your food.

The average person has approximately the same taste thresholds for salt and sugar, but they vary for other tastes. Some people are blind to certain taste sensations—which probably detracts from their enjoyment of food. Still others can detect the chemical benzoate of soda as tasting sweet, others think it bitter. To most people the same chemical is entirely tasteless.

It is never safe to utilise the sense of taste to detect a poison. Never say, "Oh, it tastes all right," and then proceed to eat it. A lot of poisonous substances have no taste, some are even temptingly sweet. Keep this in mind when tempted to try unrecognized beans or mushrooms.

Animals' Tongues

The tongues of many animals appear pink and pliable and not unlike the tongues of homosapiens, but in others there are immense differences in structure and function.

Whales are enormous creatures, but because they don't chew their food they have no need of tastebuds, and those who should know assure us that a whale has few, if any, tastebuds.

On the other hand, a cow which chews continually and apparently enjoy its food again and again, has some 35,000 tastebuds, ten times as many as a human being has.

Because we can only taste things that are soluble, animals that live in water have tastebuds all over their bodies. Fish can even taste with their tail fins. (Full marks to the scientist who discovered that.)

In mammals the tongue's mobility inside the mouth creates a negative pressure which enables the young to suckle.

In adult horses this negative pressure is great enough to lift a column of water three feet, so that a horse can easily drink from a stream or trough without lifting its head to swallow.

Tongue and Disease

When you are sick and the doctor asks to see your tongue, it is because changes in the tongue's appearance will often give a clue to disturbances in other organs and systems.

The normal tongue has an evenly coloured, finely granulated surface, and any changes of colour, uneveness of surface or degree of moisture can reflect a disorder such as gastrointestinal disturbance.

However, don't panic if you wake one morning with a furry tongue. A coated tongue actually provides no diagnostic clues, because it can be caused by a wrong diet (or a heavy meal of indigestible foods late at night), by smoking and even by breathing through the mouth.

Oral cancers are on the increase, principally due to smoking, although defective teeth and hot-spiced foods bear some of the blame. If a tongue cancer is diagnosed early enough it can safely be removed by surgical treatment, possibly combined with radiation.

Don't take any risks with this precious organ of taste and speech. If you suspect that anything is not as it should be consult your doctor IMMEDIATELY.

Courtesy : HERALD OF HEALTH

LEGAL EDUCATION—9

The National Security Act 1980: Your Rights if Arrested

— P.D. Mathew

Deprivation of personal liberty

The constitution of India guarantees personal liberty to every citizen, which is one of the most cherished values of mankind. Its exercise is essential for the self-fulfilment and personality development of citizens.

Yet this Fundamental Right is not absolute. Under Art. 22, the State is empowered to enact laws for preventive detention and to put reasonable restrictions on the liberty of the citizens in order to safeguard the security of the State and public interest. At the same time the Constitution puts certain restrictions on the power of the legislature to enact the laws for preventive detention by providing Constitutional safeguards. Despite these safeguards, there is always the possibility of abuse of power by the legislature and the executive. It is then the responsibility of every citizen to safeguard his Fundamental Right of personal liberty and in case of encroachment by outside forces, to seek redress through legal remedies provided by the Constitution.

The purpose of this booklet is to enable the public to understand the nature of the clauses concerning preventive detention and the provisions of the National Security Act 1980. It also highlights the duty of the detaining authorities and the rights of the detenu detained under the Act and the Constitutional remedies available to the detenu in case of illegal detention.

Preventive Detention

What is the nature of preventive detention ?

Preventive detention is arrest of a person prior to committing an illegal act and his detention without trial. The object of preventive detention is to prevent the individual from committing an illegal act. The suspicion that a person will act in a manner prejudicial to public order, the secutiry of the State or public interest is enough to justify his detention. It is not necessary for the State to establish actual breach of public order etc.

What are the Constitutional safeguards relating to preventive detention ?

Art. 22 of the Constitution approves the enactment of preventive detention laws to prevent anti-social and subversive elements from destroying the development and welfare of the Republic. At the same time it provides certain safeguards against the abuse of legislative power. The following are some of the Constitutional requirements to make the preventive detention laws valid.

* Preventive detention cannot be ordered by the Executive without the authority of a specific law.
* The detention of a person must be in conformity with the procedure laid down by a valid law i.e., a law which the legislature has the competence to enact.
* It is obligatory on the part of the State to constitute an Advisory Board whose opinion has to be sought in case of detention beyond two months.

Ordinarily Parliament cannot enact a law authorising detention beyond two

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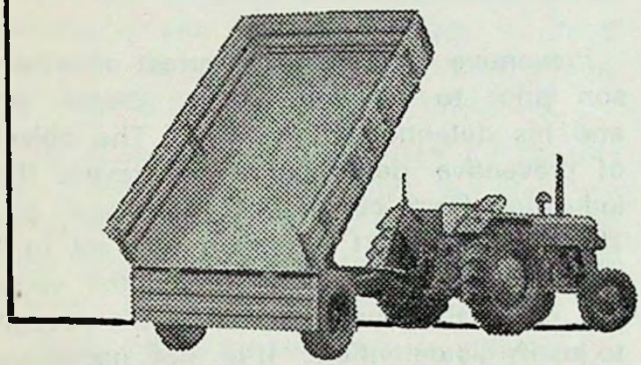

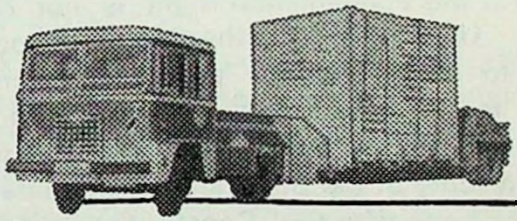

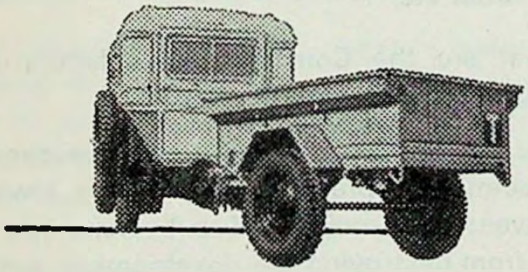

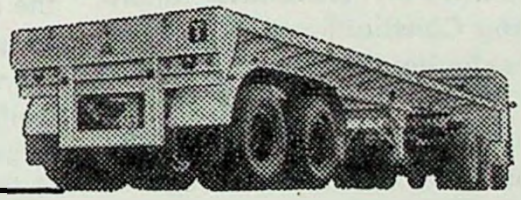

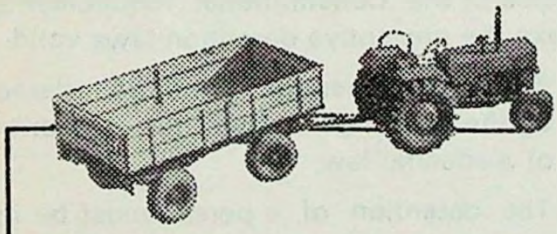

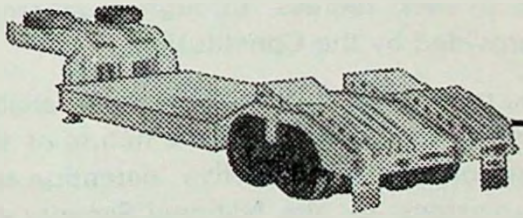

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months without the intervention of an Advisory Board. But it may, by law, prescribe the circumstances under which, and the class or classes of cases in which, a person may be detained for more than two months without obtaining the opinion of the Advisory Board.

* No State can enact a law authorising detention beyond the maximum period prescribed by Parliament.

* Parliament has also power to prescribe the procedure for the Advisory Board.

* Under Art. 22 (5) a detenu has a right to obtain information as to the ground of his detention and has also the right to make a representation protesting against the order of preventive detention.

* According to Art 21 of the Constitution the procedure prescribed by the law must be just and reasonable.

Court's Jurisdiction in case of detention.

1. The Court can examine the validity of the law itself on the ground of competence of the legislature, violation of Art. 22 or interference with the jurisdiction of the Supreme Court under Art. 32.

2. When a law on preventive detention is challenged in the court, it must consider the true nature and character of the legislation and decide whether the law is really on the subject of preventive detention or not.

3. The Court may examine the grounds specified in the order of detention to see whether they are relevant to the detention, e.g., acting against the secutiry of India and maintenance of public order etc., and set the detenu free if there is no rational justification for the detention.

4. It may examine the *bona fide* of the order and interfere if it is *mala fide* i.e., if the law of preventive detention is used for any purpose other than that for which it is made.

When is an order *mala fide* ?

* An order of detention is *mala fide* : if it is made for a purpose other than that intended by the legislature e.g., to suppress the activities of a political opponent;

* if the grounds on which the detention is made is not proper or irrelevant;

* when it appears that the authority issuing the order did not examine the grounds properly;

* where the Court has declared, the detention of a person to be without jurisdiction, and a subsequent order of detention is issued on the same grounds.

Effect of unreasonable delay

Since preventive detention is a serious invasion of personal liberty, the Court would scrutinise delay in the observance of the procedure expected from the detaining authority at each of the states involved and where there is no satisfactory explanation for such a delay it would strike down the order of detention on the ground that the order was made by the relevant authority without applying his mind.

What is the scope of the Advisory Board ?

The only function of the Advisory Board is to report to the government whether a

detenu is liable to be detained for a period exceeding two months. If the report states that a person is liable to be detained then alone the government is allowed to detain the person beyond two months, provided the detention is valid on its merits and does not otherwise violate the provisions of the Constitution.

Is reference to the Board obligatory ?

In view of Article 22 (4) there is no need of any reference to the Advisory Board, if the government does not continue the detention beyond two months or if it releases the detenu at any time earlier than two months, upon consideration of the representation of the detenu.

But if no reference is made to the Advisory Board any detention by the government becomes illegal on the expiry of two months from the date of detention.

Has the detenu a right to representation ?

Art. 22 (5) of the Constitution gives a detenu a Fundamental Right to make a representation to the government. But he has no right to be heard by an independent tribunal. If the Court finds that the detenu is not given the earliest possible opportunity to make a representation to the government, it can declare the order of detention invalid.

In order to make an effective representation in time, the detenu is entitled to get all the relevant documents on which the detaining authority has relied for the detention.

The right of detenu for consideration of representation.

* This right is a Fundamental Right guaranteed by Art. 22 (5) of the Constitution.
* The government must consider the representation with an unbiased mind.
* It is the obligation of the government to consider the detenu's representation independent of the consideration of the case by the Advisory Board.
* The government must consider the representation as soon as it is received.
* Where the government fails in its obligation to make the initial consideration, as soon as the representation is received the order of detention becomes invalid.

THE NATIONAL SECURITY ACT 1980

The National Security Act 1980 provides for preventive detention of a person under certain circumstances. The main objective of the Act is to enpower the government to detain persons acting in a manner prejudicial to the defence or security of India, to the country's relations with foreign powers or to the maintenance of public order, supplies and services.

Note

The Sections referred to in this part are the sections of the National Security Act 1980.

Who has power to issue order of preventive detention under this Act ?

Only the Central and the State Governments have the power to issue orders of preventive detention. The State Government by a written order can direct the District Magistrate or Commissioner of Police to exercise the powers of preventive detention in their respective area of jurisdiction. (Section 3).

What are the grounds for which detention can be ordered ? (Section 3 (1) and (2)).

* For acting in a manner prejudicial to the security and defence of India and

its friendly relations with other countries.

* To regulate or restrict the movements of a foreigner whose activities or movements may be considered prejudiciai.

* For making arrangements for the expulsion of a foreigner from India.

* For acting against the maintenance of public order or supplies and services essential to the community.

What is the procedure to be followed when the order is made by the District Magistrate or Police Commissioner ?

The District Magistrate or Police Commissioner who issues an order for the detention of a person must report the fact to the State Government together with the grounds all other particulars related to the detention. The above order cannot remain in force for more than twelve days unless it is approved in the meantime by the State Government (Section 3 (3)).

What is the duty of the State Government when the order is issued or approved by it ?

When the order of detention is issued or approved by the State Government it must within 7 days report the matter to the Central Government together with the grounds and other particulars on which the order has been issued (Section 3 (5)).

How the order of detention executed ?

A detention order can be executed at any place in India in the manner provided for arrest under Code of Criminal Procedure (Section 4).

What is the power to determine place and conditions of detention ?

The Central or the State Governments, by general or specific orders can specify :

1. the place of detention;

2. the conditions of maintenance, discipline, and punishment for indiscipline;

3. the transfer of the detenu from one place to another, or from one state to another.

Note

* The removal of a detenu by one State Government from one State to another requires the prior conset of the Government of the other State to which the detenu is transferred.

* According to Section 6 of National Security Act an order of detention cannot be declared invalid merely because :

1, the person to be detained remains outside the territorial jurisdiction of the government or of the officer issuing the order; or

2. the place of detention is outside the territorial jurisdiction of the said government or officer.

What is the procedure to arrest absconding persons ?

* If the Central or State Governments or the District Magistrate or the Police Commissioner reasonably suspect that a person against whom an order of detention has been issued, has absconded or is concealing himself to evade the execution of the order, the government or officer. By notification in the Official Gazette, may order the person to appear before the officer within a specified period and at a specified

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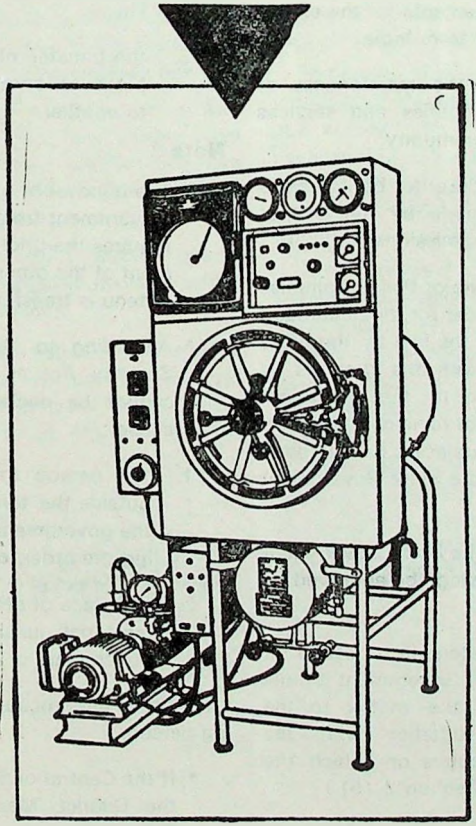

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place. If a person fails to comply with such an order he can be punished with imprisonment for a term which may extend to one year or with fine or both. This is a cognizable offence and the police can arrest the person without warrant.

* If a person proves his inability to comply with the order or informs the concered officer within the specified period, of his whereabouts and the reasons for his non-appearance, he will not be punished.

* the Government or the officer may also report in writing the fact of absconding to the Metropolitan Magistrate or a First Class Judicial Magistrate having jurisdiction in the place where the absconding person ordinarily resides.

* The Magistrate may publish a written proclamation ordering him to appear in the Court and declare him a proclaimed offender. If the warrant or proclamation fails then the Court may *attach* his movable and immovable property (Section 7).

What is the right of a detenu to receive the grounds of detention ?

When a person is detained, the authority issuing the order ordinarily within 5 days and in exceptional circumstances within 10 days of the date of detention, must inform him of the grounds on which the order has been issued and must afford him the earliest possible opportunity of making a representation against the order to the appropriate Government. If the grounds of detention are communicated to the detenu after 5 days from the date of detention then the reasons for the delay must be given to him in writing (Section 8).

Can organising peaceful processions and demonstrations be a ground for detention under the Act ?

The Supreme Court has repeatedly emphasised that public order is not affected by peaceful processions and demonstrations and that even a breach of law and order does not amount to a disturbance of public order. In the opinion of the Court public order can be said to be disturbed only by a large scale community-wide disorder. This decision of the Supreme Court makes it clear that persons participating in peaceful processions and demonstrations cannot be detained under the laws of preventive detention.

Advisory Boards

The Centre and each State Government must constitute one or more Advisory Boards, in accordance with the recommendations of the Chief Justice of the High Court of the State (Section 9).

Constitution

Each Board shall consist of 3 persons who are, or have been or are qualified to be appointed as Judges of a High Court.

The Government must appoint one of the members of the Board to be its Chairman. He must be or have been a judge of the High Court.

Reference to Advisory Boards

In every case of detention, the appropriate Government within 3 weeks period must place before the Advisory Board, the grounds on which the order has been issued, together with the representation made by the detenu and the report of the officer who issued the order.

Procedure of Advisory Board

The Advisory Board must first consider the material placed before it. Then, if necessary, ask for further information from the Government or any official concerned with the detention or the detenu himself. If the detenu desires to be heard by the Board, after hearing him in person, the Board must submit its report to the appropriate Government within 7 weeks, from the date of detention. The proceeding of the Board and its report are confidential matters not to be disclosed to the detenu or the public (Section 11).

Report of the Board

The Board must specify in the report its opinion as to whether or not there is sufficient cause for the detention of the person concerned. Majority decision of the members will be considered to be the opinion of the Board. The final opinion regarding the validity of the detention order must be communicated to the detenu.

No lawyer is allowed to appear on behalf of the detenu before the Board.

Action on the report of the Advisory Board (Section 12)

1. If the Board is of the opinion that there is sufficient cause for the detention, the appropriate Government may confirm the detention order and detain the person for a period not exceeding one year.

2. If the Board finds that there is no sufficient cause for detention of the person, the appropriate Government must revoke the detention order without delay and release the detenu immediately.

Duty of the detaining authority to consider the representation by the detenu.

Independently of the reference to the Advisory Board, the detaining authority must consider the representation at the earliest and come to its own conclusion before confirming the detention order (See cases (1979) 4 SCC 401 : 1980 SCC (Cri.) 4).

The detaining authority is competent to consider and take a decision of the initial representation made to it by or on behalf of the detenu. It is, however, open to the detenu to make further representation to the State or the Central Government (See case 1979 SCC (Cri.) 1015).

Maximum period of detention

The maximum period for which a person can be detained is 12 months from the date of detention. The Government has power to revoke or modify the detention order at any earlier time (Section 13 & 14).

Issuing fresh detention order

The Government is empowered to issue fresh detention order against the same person in any case where fresh facts have arisen after the date of revocation or expiry (Section 14 (2)).

Temporary release of persons detained

1. During the period of detention the Government may direct the release of the detenu for a specified period with or without specific conditions (Section 15).

2. When granting him release the Government may require him to make a bond with or without sureties for the due observance of the conditions specified in the direction.

8. The released person is expected to surrender himself at the specified time and place to the specified

authority at the expiry of the period of release or when the release-order is cancelled.

4. If the released person fails to surrender himself without sufficient cause, he is liable to be punished with imprisonment up to two years or with fine, or with both.

5. If the released person fails to fulfil any of the conditions imposed on him the bond executed by him may be forfeited and any person bound by the bond would be liable to pay the penalty.

Protection of action taken in good faith

This section bars a person from instituting a suit or legal proceedings against the Government or any officer for anything done in good faith or intended to be done in pursuance of this Act (Section 16).

Note

Though the National Security Act was enacted only in 1980, the clauses on preventive detention have to be interpreted according to the Supreme Court Judgements prior to that. In various judgements the Supreme Court has laid down certain conditions for the validity of detention. The reference to the cases is given in brackets.

What makes a Preventive Detention order invalid or illegal ?

The following are some of the reasons that can make the order of detention invalid :

* Law providing for preventive detention and the action taken under it violate Articles 19 and 22 of the Constitution ((1979) 4 SCC 370).

* Consideration of extraneous material by the detaining authority without communication of the same to the detenu.

* Detention of petitioner for a second time on the same ground, on which earlier detention was made ((1973) 2 SCC 822).

* Detaining a person for forming association for ventilation of grievance in a lawful manner and for making protest in a peaceful manner (1975 SCC (Cri.) 160).

* The intention of the detaining authority is *mala fide*.

* The Officer issuing the order of detention has no authority to do the same.

* Relevant materials essential to the formation of the subjective satisfaction of the detaining authority is kept away from him (1979 SCC (Cri.) 262).

* Copies of the documents, statements and other materials relied upon in the grounds of detention are not furnished to the detenu along with the grounds of detention during the prescribed period ((1980) 4 SCC 531 : (1980) 4 SCC 624; (1980) 4 SCC 499).

* Refusal to supply to the detenu copies of material referred to and relied upon in grounds of detention ((1980) 4 SCC 624 : 1981 SCC (Cri) 86).

* Ground of detention is so vague that the detenu cannot clearly understand the allegation against him and he is thereby prevented from making an effective representation ((1979) SCC (Cri.) 999)

* The grounds of detention are irrelevant or non-existant ((1974) SCC (Cri.) 609).

* The order of detention is not properly explained in the language of the detenu who does not understand English ((1970) 3 SCC 489 : 1971 SCC (Cri.) 95).
* Despite requests the detenu is not given the earliest possible opportunity to make an effective representation against the order of detention ((1980) 4 SCC 531 : (1980) 4 SCC 525).

CONSTITUTIONAL REMEDIES

What are the constitutional remedies available to a detenu in case of detention under the Act ?

For the protection of his Fundamental Rights, the detenu can move the High Court under *Article 226 or Supreme Court under Article 32 of the Constitution* by means of a petition for issuing a writ of *habeas corpus*. He can also challenge any of the provisions of the Act on the ground that such a provision is in violation of his Fundamental Rights.

Duty of the Court

The judiciary is the custodian of the Fundamental Rights to life and liberty and has a duty to strike down a law if it does not provide for just and reasonable procedure for preventive detention.

What is the nature of a writ of Habeas Corpus ?

This writ is an order or command from the Supreme Court or the High Court calling upon the person, who has detained another to produce the latter before the Court, in order to let the Court know, on what ground he has been confined and to set him free if there is no legal justification for the detention. The purpose of the writ is to test the legality or otherwise of detention and not to punish the wrong-doer. If detention is not legal, the detenu will be ordered to be released.

On whom is burden of proof ?

In *habeas corpus* cases, the burden of proving that detention was in accordance with the procedure established by law is on the detaining authority, because of the clear and explicit terms of Article 21 of the Constitution.

What is the attitude of the Supreme Court in cases of Preventive Detention ?

In case of an application for a writ of *habeas corpus* the practice being evolved by the Supreme Court is not to follow strict rules of pleading in view of the peculiar socio-economic conditions prevailing in the country, where large masses of people are poor, illiterate and ignorant and access to the Court is not easy on account of lack of financial resources. It does not place undue emphasis on the question as to on whom the burden of proof lies. Even a post card written by a detenu from a jail has been sufficient to move the Court to examine the legality of detention.

The Supreme Court has shown great concern for personal liberty and refused to throw out a petition merely on the ground that it does not disclose a *prima facie* case invalidating the order of detention. Wherever a petition for a writ of *habeas corpus* has come up before the court it has almost invariably issued a rule calling upon the detaining authority to justify the detention. Once the rule is issued it is the duty of the Court to satisfy itself that all the safeguards provided by the law have been scrupulously observed and the citizen is not deprived of his personal liberty other than in accordance with the law. The Court has always regarded the personal liberty as the most precious possession of mankind and refused to tolerate illegal detention regardless of the social cost involved in release of a possible renegade.

For further information in legal matters contact :

Director, Legal Aid
Indian Social Institute
Lodi Road, New Delhi 110 003
Tel : 622379, 624760
Gram : INSOCIN

Amoeba : Companion or Killer ?

The amoeba lives widely in peaceful coexistence with its human hosts, but occasionally it turns into an aggressive pathogen.

Bernardo Sepulveda

Amoebiasis is the infection produced in human beings by a histolytic, or tissue-destroying parasite, known scientifically as *Entamoeba histolytica*. This amoeba usually lives and reproduces in the large intestine, and does not always cause disease. In most cases, peaceful coexistence reigns between the parasite and its host, or carrier. Occasionally, however, the amoeba penetrates deeper into the body, damaging tissues and causing amoebic disease, or invasive amoebiasis. Only a few of the factors which change the amoeba from an inoffensive parasite into an aggressive pathogen are known. The important point is that not all those who harbour *E. histolytica* in their intestines necessarily suffer from amoebic disease, although they may help to spread the infection among other people.

Amoebiasis has certainly existed since remote antiquity and many of the outbreaks of dysentery recorded since the time of Hippocrates were probably of amoebic origin. Clinical descriptions which make it possible to identify amoebiasis with relative certainty have been published since the 17th century, but Fedor Aleksandrovich Losch actually made the discovery of *E. histolytica* in 1875 in St. Petersburg, now Leningrad, in a patient suffering from dysentery. A few years later the amoeba was also shown to be present in liver abscesses.

Poor people's disease

Amoebiasis can be found all over the world, including the cold and even polar regions: epidemics of amoebic dysentery have been recorded among Eskimos at the North Pole. However, the frequency of invasive amoebiasis varies greatly from one geographical area to another. In the less developed countries, most of which are located in the tropics and subtropics, the proportion of patients with the invasive form is much higher. This does not mean that a tropical climate favours development of the disease—in Mexico, for example, invasive amoebiasis is more prevalent in the central plateau, at an average height of 2000 feet above sea level and in a temperate climate. The fact is that in the tropics most of the human population live under poorer economic conditions, are less well educated and lack adequate health facilities. It can be said, therefore, that amoebiasis is not a tropical disease, but one of poverty and ignorance.

Certain zones within the areas where amoebiasis is prevalent are severely affected, and have been given the picturesque and expressive name "homelands of amoebiasis". They include south-east Asia, east and west Africa, Mexico, and the north-west part of South America. The reasons for the concentration of the disease in these zones is not known.

Of the disease-causing parasites, the amoeba has one of the simplest life cycles. It develops into only two forms: the active trophozoite form, and the inactive cyst form. The trophozote alone invadest issues,, causing the disease. The cyst does not invade tissues, but is the form which spreads amoebiasis.

In its active form, the amoeba is a unicellular eggshaped organism with an irregular surface, about 30 microns in diameter and very motile. The inactive cyst is smaller and rounded, with a rigid external wall which protects the parasite when it leaves the intestine, enabling it to live for several days.

More is now known about the ways in which *E. histolytica* attacks the body. It first adheres to the cells or tissues; next it kills the cells, probably by means of toxic substances; and subsequently it eats them through "mouth" which open in the outer surface, a process technically known as phagocytosis.

In this way *E. histolytica* can penetrate and invade the mucous membrane of the large intestine, producing ulceration and other damage in the intestinal wall; this is the reason for its name. It can also spread to the liver and other organs.

Amoebiasis is contacted mainly through eating food and water contaminated with the cysts of the parasite. The disease is spread largely by food-handlers-itinerant vendors, housewives and cook, who carry the amoeba in their large intestine. If they do not wash their hands after defecating, the cysts remain in their fingers and are transferred to the food they handle.

Flies and cockroaches which have been in contact with human faeces deposited in the open because there are no sanitary facilities can also contaminate food. Vegetables and fruits which are eaten raw, such as lettuce and strawberries, can become contaminated if they are irrigated with sewage or manured with human excrement. Seafood, particularly oysters and clams, becomes contaminated when sewers drain into the sea. Drinking water from springs, streams, wells and reservoirs can became contaminated with faecal matter and the same may happen if drains discharge into river-water.

All these forms of contamination reveal the very important role played by ignorance, poverty and resultant social backwardness in the transmission of amoebiasis.

When the amoeba invades the wall of the large intestine, the most common clinical symptom is dysentery, with mucus and blood in the stools, colic pain and straining at stool, Amoebic dysentery is usually a rather mild disease; there is no fever or general malaise and, with suitable treatment, the symptoms disappear in a few days, sometimes spontaneously, Other varieties of dysentery, such as that caused by *Shigella*, are usually more serious.

However, intestinal amoebiasis does sometimes—luckily less frequently-take more serious forms, such as colitis with extensive and deep ulceration of the intestine, amoebic appendicitis and amoeboma, a tumour-like lesion which can be confused with cancer of the colon. Mortality is high for all of these.

The most frequent extra-intestinal complication is amoebic abscess of the liver, which causes a high fever, profuse sweating, intense pain on the right side and enlargement of the liver. One of the peculiarities of amoebiasis is that liver abscess is three to four times more frequent in men than in women. In the absence of suitable treatment, the prognosis for this complication is very grave.

Other uncommon complications of amoebiasis are brain abscess, almost always fatal, invasion of the male and female sex organs, also sometimes confused with cancer, and invasion of the skin, generally in regions near to the anus.

Mention should be made of another disease supposedly caused by *E. histolyitca* and termed chronic amoebic colitis. This diagnosis is generally reached in the case of patients with intestinal disorders such as diarrhoea, constipation, flatulence, abdominal

pains and mucus in the faeces together with *E. histolytica* cysts. The great majority of these patients are suffering from the complaint known as "irritable colon", sometimes also called spastic or nervous colitis, and are at the same time carriers of the parasite. In such cases the characteristic lesions of amoebiasis are not present; the active trophozoite form of the amoeba is not found in the faeces; and specific treatment is ineffective. This condition is sometimes called "false amoebiasis".

Until recently it was believed that diseases caused by parasites, unlike may viral or bacterial infections, did not provoke an immune reaction in the body which might help defend the individual against the disease. We now know that, at least in some parasitic diseases and especially in amoebiasis, such an immune defence reaction does exist. It has been proved, in fact, that in the case of amoebic abscess of the liver and in other serious forms of amoebiasis relapses are exceptional, even when cured patients return to the same unfavourable conditions which first exposed then to the disease. This shows that the body can acquire immunity of against a fresh infection the amoeba, and on the basis of clinical observations we believe that even the mild forms of amoebiasis can confer a certain degree of immunity.

Moreover, it has been shown that the great majority of amoebiasis patients have antibodies against the amoeba in their blood which are able to kill the parasite; these probably have a protective effect, acting perhaps not so much against actute infection, but rather preventing fresh attacks. Apart from this type of immunity, termed humoral since it is connected with the blood fluids, another type has been demonstrated which depends on various cells and is therefore called cellular immunity.

Finally, it has proved possible to immunize animals by injection of extracts of *E. histolytica*. Immunized animals remain protected against inoculation with virulent amoebas, although similar inoculation causes serious lesions in non-immunized animals. All this points to the possibility of developing a safe and effective vaccine.

Very effective drugs are now available for treating amoebiasis, namely metronidazole and its derivatives. If administered at the proper time and in a suitable dosage, these drugs can cure 90 per cent of amoebiasis cases in a period of 5-10 days. They have the advantage that they can be given by mouth, are generally well tolerated, and they should be regarded as the drugs of choice. Also, a special feature of amoebic lesions is that properly treated and cured they generally disappear without noticeable trace, leaving the affected organs completely restored to health.

The indications for surgical treatment of amoebiasis are very precise. Especially in the case of liver abscess, surgery should be reserved for a few patients only.

As regards *E. histolytica* carriers, there is some dispute about whether or not to treat them, but the most reasonable veiw is that they should undergo treatment, because of the likelihood that they may spread the disease.

Since the cysts of *E. histolytica* are the only form by which amoebiasis is transmitted, it would seem theoretically simple to prevent the infection by destroying cysts. Undoubtedly, if this could be achieved it would put an end to amoebiasis all over the world, but in practice it is not so easy.

The essential preventive measures are social : they consist basically of improving living conditions and educating the poorer sections of the population in countries where amoebiasis is prevalent. An additional

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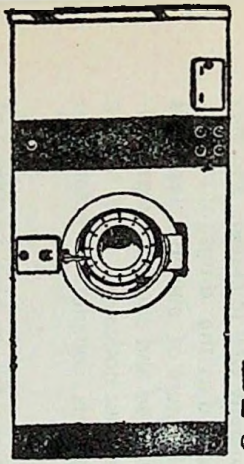

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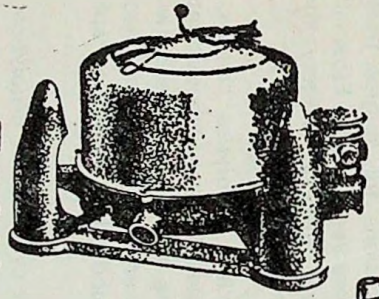

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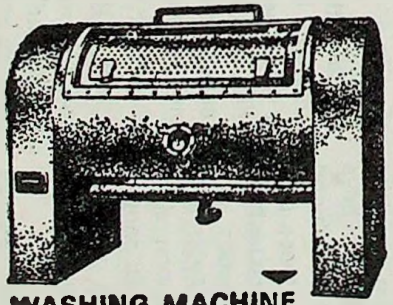

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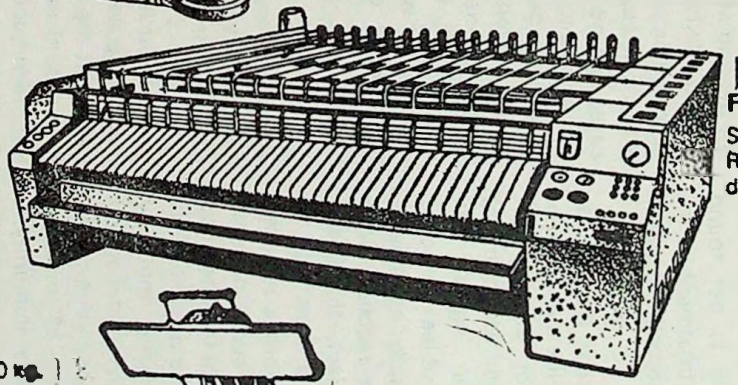

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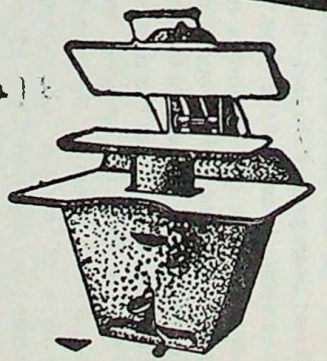

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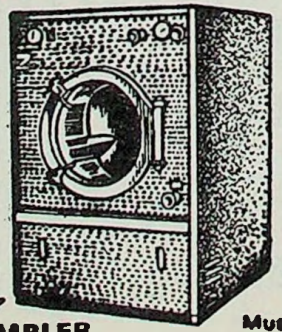

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advantage is that such measures would also help to control other bacterial and parasitic intestinal infections. Nevertheless, they call for much time, money and effort to be successful; in the meantime, advantage has to be taken of whatever means are available with current resources.

In areas where there is any risk of contracting amoebiasis, care should be taken not to eat in establishments which fail to conform to hygienic standards, and especially never to consumefood or drinks sold by itinerant vendors. Vegetables and fruit eaten raw should be carefully washed under a jet of running water. As regards varieties of seafood which are consumed raw, it is safer not to eat them in places where the sea is probably polluted.

Cooks and assistant staff in restaurants, housewives and all persons who handle food should be taught that it is essential always to wash their hands after defecation. Flies and also cockroaches should be unremittingly destroyed.

Water chlorination does not kill amoebic cysts, which also resist disinfectants with a base of iodine, permanganate or silver salts. Therefore, if there are any doubts ragarding the purity of water, it should be boiled for 10 minutes before drinking.

Individual or mass administration of drugs for the prevention of amoebiasis is not advisable, since in practice it is ineffective and inconvenient.

Although personal prophylactic measures are straight forward, the best methods, of nation-wide prevention and control remain to be devised, used and evaluated. Control programmes should probably not be specific for amoebiasis but integrated into national and international programmes for safe water, sanitation and control of faeces-borne disease.

At the World Health Organisation, both the Parasitic Diseases Programme and the Diarrhoeal Diseases Control Programme are actively promoting research into *E. histolytica* and are seeking the best strategies for diagnosis, treatment, prevention and control of amoebiasis.

Courtesy : WORLD HEALTH

Ascaris : Most "Popular" Worm

Twenty adult ascaris will steal 2.8 grams of carbohydrate each day from their host's small intestine. The world's most common intestinal parasite, they thrive on careless hygiene.

Benjamin D. Cabrera

Ascaris—also known as the gaint intestinal roundworm—is so common the world over, and so readily noticed when expelled, that if it were to join a world "popularity" contest for human parasites it would definitely be the winner. It remains prevalent worldwide probably because the female worm is extremely prolific, the eggs deposited in soil are very resistant to adverse environmental conditions, and the method of infection is so simple, directly related to existing sanitary conditions.

Ascariasis is a household and backyard infection. Young children pollute the soil by defecating where they please. As a result, ascaris eggs in their faeces accumulate where the children usually play, near dwellings, providing a source of new infection for others or of reinfection of the original host.

In some countries, human excreta are used to fertilise vegetable gardens. Also heavy rains, winds, insects, pigs and chickens all play an important role by disseminating the eggs in the soil. Ascaris spares no-one and infects both children and adults for as long as the eggs continue to be ingested through food, water or direct contact.

In some rural areas in the Pilippines, people regard the ascaris as part of a growing child. They believe that for a child to develop and grow normally it must have some ascaris worms in the intestine. In most countries, however, people strongly believe that ascaris is neither beneficial nor a benign infection.

Ascariasis is caused by *Ascaris lumbricoides*. The adult male and female worms are white or pinkish and inhabit the small intestine, where they stay unattached in the lumen or channel and simply glide along the folds of the intestinal mucosa. The adult female is about 35 centimetres long with a straight posterior end and the diameter of a lead pencil, while the male is smaller with a curved tail end. The female lays approximately 240,000 eggs per day, or about 65 million during her reproductive lifetime of nine months. A child harbouring 50 female ascaris may contribute 12 million eggs per day to the pollution of the soil. Once deposited, the eggs are very resistant to dessication and low temperature. Their shell is quite impermeable, so the embryo will develop in 5-10 per cent formalin, in one per cent sodium hydroxide or in sea water.

Soil Contamination

The eggs laid by the females pass out in the faeces at an early stage in their development. If the faeces are deposited in soil, the eggs will develop further inside the eggshell into infective larvae, in about two to four weeks. These eggs may remain viable up to two years or more in soil. Children or adults in contact with contaminated soil may ingest the infective eggs, particularly if they eat without washing their hands. The eggs then hatch in the small intestine, liberating tiny larvae which burrow into the mucosal wall in order to enter the blood circulation, passing through the liver, the heart and ultimately to

the lungs within a period of one week. The larvae subsequently penetrate the capillary bed and go to the air sacs, the bronchial tree, the trachea and finally the epiglottis. They descend through the oesophagus and the stomach, returning to the small intestine, where they mature sexually. The total operation, from ingestion of infective eggs to maturity of the worm, lasts approximately three months.

Ascaris is a prominent parasite in both temperate and tropical countries, but it is commoner in warm countries where sanitation is poor or lax. Approximately 900 million of the world's population are infected. Although ascaris occurs at all ages, it is mostly found among children—who are more frequently exposed to contaminated soil than adults—and slightly more often among males. Prevalence rates vary greatly, even within the same country. Examples of the highest prevalences reported recently include: Philippines 85-90 per cent, Malaysia 82 per cent, Thailand 70 per cent, Indonesia 83 per cent, Taiwan 50 per cent, Brazil 58 per cent, Colombia 59 per cent, Costa Rica 40 per cent, Nigeria 30 per cent, India 20 per cent, Republic of Korea 58 per cent, Vietnam 45 per cent, Islamic Republic of Iran 98 per cent, Ethiopia 58 per cent, South Pacific countries 35 per cent.

Although about 85 per cent of ascaris infections may be symptomless, the presence of a few worms can be as dangerous as harbouring several. The most frequent complaints of people with ascariasis are vague abdominal discomfort and colicky pains in the upper abdomen. Early symptoms usually depend upon the number of infective eggs ingested, as well as the individual's sensitivity to the infection. Lung inflammation may set in a week after infection and last for about three weeks accompanied by cough, difficulty in breathing and fever secondary to larval migration. Adult worms irritated by drugs or by high fever may become entangled, which causes mechanical intestinal obstruction. A single or a few ascaris adults, because of their "wanderlust", may migrate up the bile ducts, causing infection and gallstone formation around the eggs. They may also ascend the pancreatic duct, causing fatal haemorrhagic pancreatitis, or enter the liver, causing multiple abscesses. Acute appendicitis due to adult ascaris is not uncommon.

In addition to these problems, the adult worms remove food materials from the host, causing loss of appetite and faulty absorption. In many developing countries where prevalence and intensity of infection is high, the effect on nutrition among already poorly-nourished children should not be underestimated.

It has been found that 20 adult ascaris can consume 2.8 grams of carbohydrates daily. In the Philippines, about 20 million Filipinos harbour approximately 20 adult ascaris each. Therefore the food loss caused by ascaris per day could be the equivalent of 1,000 fifty-kilogramme sacks of rice.

Ideally, the most effective means of controlling ascariasis is a combination of personal hygiene, proper disposal of human faeces, health education and environmental sanitation, with potable water supply and mass treatment. Most of these are easier said than done, mainly because of poverty and socio-economic factors. Often, it is not possible to apply all these factors simultaneously; but mass treatment together with personal hygiene and proper use of toilets should be sufficient. The objective of mass treatment is not to eliminate the worms totally, but rather to reduce the worm burden and the frequency of transmission. Among children, the benefits gained from control may be in the form of a gained weight, fewer absences from school, greater alertness and improve-

ment in academic performance. Among adults, work efficiency and less absenteeism are the direct effects of deworming.

From our experience, we feel that periodic mass treatment given three time a year at four-month intervals for a period of three years, using broad-spectrum anthelminthics such as pyrantel pamoate, oxantel-pyrantel, mebendazole, flubendazole or albendazole, is the most effective method of control. Other countries like Japan, Republic of Korea and Taiwan treat the population only twice a year. Recent ascariasis control work in the Philippines done for a period of three years revealed that mass treatment of an entire community did not differ much from selective treatment of children alone in another community, in its effet on the total prevalence of these common intestinal worms.

The prevention and control of ascariasis depend upon establishment of certain barriers to the spread of the disease through the application of epidemiological knowledge. In most tropical and developing countries, it is not easy to obtain either the cooperation of the people themselves or official backing. The reasons for this may be low socio-economic status, lack of education in personal hygiene and environmental sanitation, ignorance and inertia among people about the way ascariasis is spread and the measures required to prevent infection, and lack of interest or concern on the part of officials.

National Successes

However, the successful eradication of ascariasis in some countries or regions (Japan, Republic of Korea, Israel) has taught us that the control of ascaris is possible and can be achieved with modest funds and effort on the part of governments, communities and infected individuals.

Courtesy : World Health

Oil Lamps : A Hazard

The life of a new born baby seems to be safer in brighter homes than the homes were oil lamp is used. Oil lamps are hazardous to the new born babies. Official demographic surveys show an infant mortality of 167 out of 1,000 in village houses lit by oil lamps, whereas it is around 132 where lighting is by lantern and 90 by electricity. The same is linked to the urban areas as well, where infant death rate is 59—electricity, 114—oil lamps and 92—lantern. Infant mortality rate is on decline—from 204 per 1,000 in 1911 to 114 per 1,000 at present. Life expectancy has doubled. These trends are being reviewed for the "Population Conference" to be held in Mexico.

An interesting finding is that the fertility level is the lowest among the Christian and the highest among the Muslims. Another reason for high infant mortality rate both in the rural and urban areas is the source of drinking water, where the population drink water from the wells/pond tank/river.

The infant mortality rate would be reduced from 114 per 1,000 to 60 and the net reproduction rate to one per 1,000 by 2,000 AD.

Information, VHAI

Bonded Labour

Bonded labour system is the oldest in Bihar and U.P. These findings were revealed in an evaluation study on rehabilitation of bonded labour, conducted by Planning Commission. The main aim of this study was to identify, free and to rehabilitate the labourers. About 98 percent were bonded due to indebtedness and 2 percent were due to customary of social obligations. The report adds, that the State and district authorities failed in providing allowances during the intervening period of release and rehabilitation, thereby exposing them to hunger and ralapse into bondage. The rehabilitation schemes have not been of much help to the labourers. The study therefore, recommends to spend some money on education of the children, on social functions, medicial care, etc. The protection of civil rights be enforced and encourage voluntary organizations to undertake social reforms. Identification job is still incomplete in some states. It is suggested identification be made during surveys for locating population below the poverty line.

Information, VHAI

Ineffective Polio Vaccines

Anti-polio vaccines given to children under the immunization program are found to be ineffective in a number of cases, this is according to Dr. P.K. Sethi, who runs a well known rehabilitation center in Jaipur. An inquiry into the working of this program would reveal the facts. About six cases of polio are registered daily in the centre. In many cases the victims were found to have been given anti polio vaccines. These vaccines become ineffective because they were not stored at the stipulated temperature by the health department. It was noted that in MP about 200 primary health centres did not have the refrigeration facilities and in certain places the refrigerators were out of order. He stressed the need to manufacture

rehabilitation aids for the disabled locally. He also said the traditional artisans and village carpenters could be trained to make artificial limbs.

Information: VHAI

Pesticides

International Development Research Centre (IDRC) reports that about 10,000 people die of pesticide poisoning every year in the Third World. About 7.5 lakh cases of pesticide poisoning occur all over the world annually resulting in about 14,000 deaths. Out of this, roughtly 3.75 lakh cases occur in the Third World. Pesticide poisoning is becoming the most pervasive occupational hazard in the Third World. Sri Lanka has an average of 104.5 cases per 1,00,000 of population—highest in the world. Health risk increases rapidly with the production of toxic chemicals—dyes, pesticides, detergents, flavour essences, pharmaceuticals, preservatives, plastics, etc. which is handled by the workers. The incidence is more in the developing countries because it is the major importer of these toxic chemicals. In the Third World figures do not include long-term effects as cancer, sterility, birth-defects and disability in general. This report referred only to acute poisoning where death or sickness occurs rapidly after exposure over a short period.

Information, VHAI

Tuberculosis

The Ministry of Health and Family Welfare has sanctioned Rs. 1050 lakhs for the detection and cure of tuberculosis for 1984-85. During the current year the Center will provide anti-TB drugs worth Rs. 902 lakhs to the TB clinics in various states.

Information, VHAI

Gonoshasthaya Kendra (GK) PO Nayarhat; Via Dhamrai, Dhaka, Bangladesh

Gonoshasthaya Kendra was the only organised field hospital for freedom fighters and refugees on the Eastern border of Bangladesh during the war of Liberation in 1971. The core of the health program is the work of village—based paramedics, local people (most of the women) and promoting the free health insurance scheme for the poor. The agricultural extension program rural credit facilities, the school and the narikendra training centre were all initiated in GK to promote rural development program in which the poor organise and participate.

Gonoshasthaya Pharmaceuticals (GP)—is to produce high quality drugs at reasonable price and production of essential drugs as listed by the WHO. The research, development and quality control department is equipped with modern machinery and equipment. Facilities are therefore :

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(4) dissolution tester

(5) Bio-availability test

They also train up workers on modern technology. Some of the drugs produced by GP are aspirin, paracetamol, diazepam, metro-nidazole, antacid, ampicillin, (capsule form and drysyrup), tetracycline and penicillin (dry syrup).

Information : VHAI

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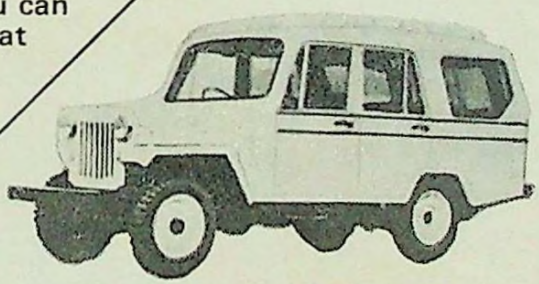

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