MEDICAL SERVICE

are the industrial chemicals slowly poisoning us? ● correcting genetic defects during pregnancy ● healthy youth: our best resource ● a sensible approach to asthma ● conserve your vital force ● to kill or not to kill? medical ethics forum.

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EDITORIAL

A New Orientation

The Church in India has addressed herself to the needs of the people in this country especially in the fields of education and health for more than a century and particularly after Independence. Singing of praises by government officials, politicians and others, in these two fields of services are no rare occurances in any part of our vast country. There is no doubt, as single minority community, our contribution in the service to the nation is substantial, even out of proportion to our number. Yet, inspite of all these we can not forget or ignore the hard reality that more than 80% of our people particularly in rural areas are without proper health care facilities and in many cases even without minimum facilities like safe drinking water, sanitation etc.

One scene that can be noticed so commonly in all parts of this vast country, and particularly in urban areas, is that the co-existance of the so called "Five Star" hospitals, sophisticated health care institutions on the one hand, whether owned and/or run by private organisations or individuals or by government itself, and people with chronic illness living in hutments and slums etc. on the other, who are unable to reach these institutions of excellence not because of distance, but because of various types of barriers, the cost-factor being the main. In spite of all these, we as Catholic health care institutions have a special mission towards these neglected ones in the society. In order to fulfill this mission, we may have to re-think about our commitment and we need to re-orient ourselves to meet this need.

Though we can be proud of our professional expertise, personal devotion and commitment and caring concern for the person of the patient through our hundreds of health care institutions, we should not be led to a state complacency, a possible danger we may enter into if we are not careful. What we need today is to re-orient ourselves to see beyond our institutions, however excellent they are, and see the persons' environment and community.

This going beyond is the new vocation and mandate of the health care personnel and health care institutions. Our new orientation should also be to pay particular attention to the poorest of the poor, following Christ's own preferential option for the poor. This calls for a new type of health care personnel, a new approach, new techniques and above all new education and training. Since vast majority of our health care personnel work in places other than their own native places, special attention will have to be paid to orient them to the customs, cultures, values etc. of the place of their work. Hence, to make our health care appostolate more meaningful today, a new orientation is the need of the hour.

Are the Industrial Chemicals Slowly Poisoning Us ?

—Niranian Desai

Over 2000 people have died and thousands have been disabled by the leakage of Methyl Iso-cyanate (MIC) gas at the Union Carbide pesticide factory in Bhopal (Madhya Pradesh) since 2nd December 1984. This is the worst industrial disaster ever recorded in the history of the world.

Slowly frightening after-effects of the gas are coming to light. Gas victims have developed cerebral paralysis, a disease which paralyses the nervous system.

According to American public health experts, the area affected by the poisonous gas leakage may face, for years to come, a health crisis of a severity "unparalleled in peace time." It is reported that according to the experts, the eyes or lungs of a considerable percentage of the population would be greatly impaired. Sooner or later many victims are expected to succumb to suffocating onslaughts of emphysema, asthma, bronchitis or such diseases as pneumonia.

According to a chemist, "No one knows what sort of long term after-effects the MIC gas can cause to human beings. Human beings were never exposed to this kind of pollution and no amount of laboratory studies could predict its after-effects".

Synthetic Toxic Chemicals

Because the Bhopal disaster struck in a stupendous way, we are horrified by the tragedy. But, are we aware how the chemicals are slowly poisoning mankind without their being aware of it? Now, let us have a look at the way the synthetic toxic chemicals are causing havoc on mother earth.

The introduction of new chemical products into the environment since World War II has been responsible for the increased cancer rate since then. In 1900, cancer was the cause of death for about 3 per cent of the total deaths in the USA. But by 1975, cancer annually caused 20 per cent of the deaths in that country. The World Health Organisation has stated that environmental factors cause 60 to 80 per cent of all cancers. Environmental factors include many kinds of exposures, from cigarette smoke to contaminated water and to chemicals in the places of work. Most of the people who are suffering from heart disease, the number one killer in the USA, are living in areas of high air pollution.

Cadmium, a metal used in rubber tyres, plastics, pigments and as a plating on metal, is believed to cause high blood pressure, which results in heart disease. Scientists believe that carbon monoxide and lead also cause heart disease. Lead pollution causes brain damage in children. Two-thirds or more of all lead intake for adults is attributed to food which absorbs the metal from contaminated water and soil or from pesticides.

Dr. Ralph Dougherty of Florida State University has stated that exposures to toxic chemicals decreases male fertility. According to him, sperm density in American males has declined in the past 30 years steadily from an average of 100 million cells per millilitre before 1950 to averages of 50 to 80 million cells today. Concentrations of trichlrophenol, a metabolite of the herbicide 2, 4, 5,-T and Silver, were found to contribute to the declining sperm counts.

It has been found by researchers that most cancer-causing chemicals also induce birth defects and gene mutations. A scientists conference on mutagens in 1979 concluded, "In all likelihood, environmental mutagens contribute to a large and costly genetic health burden." Scientists have found more than 100 organic compounds in human unblical cords, including halogenated hydrocarbons, plastic components, food preservatives, carcinogens, benzene, carbon tetrachloride and chloroform.

Safety Measures in Plants

The links between the many forms of pollution can best be understood by briefly considering the steps of production. Getting the raw materials by mining or otherwise can pollute water and air, and expose workers to dust and dangerous conditions. At the manufacturing stage, workers can be further exposed to dusts and hazardous chemicals. During manufacture, wastes are produced, which are dumped on the land or let out into the air or water. The ultimate product itself, like pesticides, is a further source of contamination. If the product is not recycled, it will add to the nation's immense pile of waste, as is being faced by the advanced countries.

Failure to control dangerous substances and the unwillingness to spend the money to reduce the dangers, create both occupational and environmental hazards. An unsafe plant can demolish the health not only of its workers, but also all the people living around that area. This is what exactly happened at Bhopal on 2nd December 1984. Then comes the product, such as pesticides, which can threaten the health of people thousands of kilometres away.

Now, let us see how some of the chemicals effect our lives. In the USA, the National Cancer Institute and the National Institute for Occupational Safety and Health analysed the potential risk for workers exposed to 9 substances. The results are really staggering.

1. *Arsenic* : The risk ratio of workers potentially exposed—the number of cancers expected, compared to that in a normal population—is from 3 to 8 times higher for lung cancer.

2. *Benzene* : The risk ratio of workers potentially exposed for leukamia (blood cancer) is 2 to 7 times higher.

3. *Coal tar pitch volatiles and coke oven emissions* : The risk ratio of potentially exposed workers is from 2 to 6 times higher for lung, larynx, skin and scrotum cancer.

4. *Vinyl chloride* : The risk ratio of potentially exposed workers, are 200, 4 and 1.9 times higher respectively for cancer of the liver, brain and lung cancer.

5. *Chromium* : The risk ratio of potentially exposed, workers is from 3 to 4 times higher for nasal cavity and sinus, lung and larynx cancer.

6. *Iron Oxide* : The risk ratio for the potentially exposed workers is from 2 to 5 times higher for lung and larynx cancer.

7. *Nickel* : The risk ratio for the potentially exposed workers is from 5 to 10 times higher for lung cancer.

8. *Petroleum distillates* : The risk ratio of potentially exposed workers is from 2 to 6 times higher for lung and larymx cancer.

9. *Asbestos* : Between 8 and 11 million workers have been exposed, in the USA since World War II. More than 2.15 million of them are expected to die of cancer. The NCI and NIOSH researchers have opined that asbestos alone would represent about 17 percent of all cancers detected annually in the USA.

Considering the enormity of the danger due to the manufacture and use of asbestos, the US Government has banned all manufacture and use of asbestos in the country. All the schools, who are the major consumers of asbestos, have been instructed to remove the material from their premises forthwith.

Apart from cancer, diseases of the lungs are also a particular occupational hazard. Workers employed in coal mines, textile weaving and ship building have been exposed to dusts, on the job that will kill many of them. Death from these diseases comes usually after a long latency period, mostly after the worker has retired, that people fail to take notice of its seriousness.

Acid rain: One of the most significant threats that are beyond the control of any one country is the "acid rain". Acid rain is formed by sulphur-di-oxide primarily emitted from coal-based power plants, and nitrogen-oxide much of which comes from automobile exhausts, that mix with water in the atmosphere and are returned to the earth as precipitation, sometimes as acidic as vinegar

According to official estimates, in the next 20 years, 48,000 lakes in Canada will be rendered lifeless by acid rains. About 15,000 lakes in Sweden are fishless because of pollution from smoke stacks in England, France and Germany.

The depletion of the earth's ozone layer is caused primarily by the release of fluorocarbons used as propellents in refrigerators, auto air-conditioners, aerosols and other products. Depletion of ozone would reduce the protection from the ultraviolet radiation of the sun that the atmosphere affords. More ultraviolet rays would generate more frequent incidence of cancer.

Like air pollution, water pollution is also a major cause for diseases in the modern world. One way of water pollution is through industrial sewage. Thousands of industrial plants don't treat their wastes, which often contain toxic synthetics and heavy metals. They are simply pumped out into canals and rivers or into lakes, which are used even for drinking water purposes in developing countries.

Pesticides used by farmers also get mixed up in water, both running water and ground water, causing problems later on. Though fish may develop resistance to survive in the polluted rivers and lakes, all the same they will contain significant quantities of toxic chemicals.

Beware of chlorinated water

To purify the water for drinking purposes, the authorities use chlorine to kill the disease spreading virus and bacteria. Chlorination has been a standard operating procedure in the water treatment performance. But the chlorine used as a disinfectant combines with organic wastes in drinking water to form extremely dangerous compounds called trihalomethanes (THMs). One of these compounds in chloroform, a known carcinogen. Others include brominated compounds that apparently are formed by the interaction of chlorine, the organic chemicals and bromide.

What is the effect of this pollution on human health? The research studies in the USA have indicated that pollution contaminants in water are linked with an increase in the cancer rate. In late 1980, the US Council on Environmental Quality published a new study, according to which, chemically contaminated drinking water has been linked to increased risk of cancer.

The Chief of the Clinical Epidemiology Branch of the National Cancer Institute, Dr. Robert Miller, has said, "It is clear that the contamination of water has shrunk the size of new born babies, starved others for oxygen, pustulated the skin for years in persons of all

ages, caused bones to ache with every step, and addled the brains of new borns, children and adults. With this array of adverse effects of the integrity of the human organism, is there really any need to invoke the spectre of cancer to achieve clean water?"

Granular Activated Carbon (GAC) filters are available as an alternative to chlorination. GAC filters are the best known method for removing organic pollutants in water. The filters are extensively used already in European cities, including Zurich, Cologne and Amsterdam. About 40 American cities use them to improve the taste and odour of water but none to filter out dangerous chemicals. The reason is the opposition by vested interests in the American Industry.

In India, we are still using chlorine to purify water, blissfully ignorant of the controversies going on about the danger of drinking such water. It is high time the authorities look into this, and stop using chlorine to purify water and to find an alternative like GAC filter.

Despite all the grim evidence, the production of hazardous substances and their reckless use continue to increase. The results of steady global pollution in this generation are an epidemic of cancer and increased rates of heart and respiratory diseases. The callousness of some of the advanced countries is also responsible for the pollution by hazardous chemicals. For example, pesticide like DDT, aldrin, dialdrin, chlordane and heptachlore are banned in the USA, but these are being freely exported to other countries for use there. Unless there is a total ban by all the countries at the UN level for the manufacture and use of these hazardous chemicals, the multinationals will continue to produce these dangerous chemicals and export them to unsuspecting nations.

It is high time we took stock of the situation and banned the manufacture of all hazardous and dangerous chemicals in the country, however profitable it may be. Secondly, we should also thoroughly check all the factories which are manufacturing the chemicals, even the essential and harmless ones, to ensure that all safety regulations are strictly followed. Thirdly, no chemical factory should be allowed to be constructed within a stipulated safe distance of the populated areas. Care should be taken to fix the distance, taking into consideration the future expansion of cities and towns. Fourthly, all workers should be given full protection from dangerous exposure to toxic chemicals.

If enough precautions had been taken, the Bhopal disaster could have been averted. At least, we should resolve now, to see that the Bhopal-type disaster is not repeated anywhere in future.

Courtesy SOCIAL WELFARE

An epidemic of cancer and an increase in the rates of heart and respiratory diseases is the price mankind pays for runaway industrialisation.

Correcting Genetic Defects During Pregnancy

—John Newell

A research team at London's King's College Hospital believes it will soon be able to diagnose and correct—during early pregnancy—genetic defects currently regarded as incurable.

The centre has been named the Harris Birthright Research Centre after London businessman Philip Harris, who provided the funds to establish and develop medical research there. The centre's director is obstetrician Charles Rodeck, and he and his team hope to start within three or four years treating forms of thalassaemia and sickle cell anaemia (both hereditary anomalies) before birth by using grafts of bone marrow. Monkeys are to be used later this year, in collaboration with Professor L. Brent of St. Mary's Hospital, London, to test the techniques that will be needed. If the tests are successful, there should be no problem in applying them to humans, since all these techniques have already been used in man for other purposes.

King's College Hospital has for years had a reputation for its expertise in foetal medicine, with pregnant women being referred from all over the world. In the last few months alone patients have come there from Australia, the United States of America, West Germany, France, the Netherlands, Italy, Greece and Scandinavia. The team led the development of the use of ultrasound to detect serious abnormalities before birth.

It has pioneered the use of the foetoscope, a telescope that is inserted into the uterus to examine the developing foetus from all ankles, while other tubes attached to it can be used to take blood samples or skin or liver biopsies. These can then be scanned for defective blood cells, as in sickle cell anaemia or thalassaemia or for skin or liver defects caused by genetic abnormalities.

Treated Before Births

Physical abnormalities spotted by the foetoscope can sometimes be treated before birth. Examples are blockages in the urethra, the outflow tract from the bladder. Its continued blockage can cause permanent damage to the kidneys. But if the condition is spotted early, a catheter can be inserted in to the womb to drain off foetal urine. Rhesus disease, in which the foetal blood group is incompatible with that of the mother, can readily be diagnosed from a blood sample. It can then be treated in the foetus, using in reverse the same equipment as that used to take a foetal blood sample, to deliver a complete blood transfusion of a group compatible with that of the mother.

In recent years, Mr. Rodeck's team has developed a technique for diagnosing genetic defects at a very early stage of pregnancy—as early as eight weeks after conception. This technique, called chorion biopsy, involves taking a biopsy or sample of tissue from the chorion, one of the membranes surrounding the foetus, with a fine metal tube guided by ultrasound.

Genes in cells in the biopsy are then compared directly with a reference library of the same genes from normal, healthy tissue and any genetic defects are revealed. Therapeutic abortion can then be offered for defects that would lead to fatal abnormalities in the new born infant.

Bone Marrow Donor

Now the King's College Hospital team hopes to take its work a stage further by not only diagnosing but actually treating and curing these conditions before birth. A chorion biopsy would be performed on a foetus at known risk of either sickle cell anaemia or thalassaemia. If analysis shows the genetic defect suspected is present, then a suitable bone marrow donor will be found-probably a close relative.

Bone marrow will be taken from the donor (a simple, already widely used procedure) and treated by a new technique to remove the T-cells from it. The bone marrow T-cells are responsible for the graft versus host reaction, in which bone marrow grafts develop an immune response against their new host.

Using a technique developed at London's University College and Royal Free hospitals as well as in other centres, T-cells can now be selectively removed from bone marrow that is to be used for grafting. This is done by mixing the bone marrow with monoclona antibodies made againt T-cells that have been linked chemically to the toxin ricin. The antibodies direct the ricin to destroy T-cells without damaging the rest of the bone marrow.

The Same Technique

Bone marrow treated in this way will then be injected into the blood circulation of the foetus, using exactly the same technique as that used for treating rhesus disease. But the procedure will be simpler because only a small quantity of marrow is needed. Experiments show that the marrow naturally finds its way to, and settles in, the bone marrow of its new host. Because chorion biopsy can be carried out so early, it will be possible to transfuse the bone marrow into the foetus well before the 18th week of pregnancy.

Eighteen weeks is thought to be the time at which the foetus first develops the ability to recognise and reject foreign tissue. It is therefore reasonable to anticipate that the foetus will accept the graft, and that this will cause sufficient healthy, normal red cells to be formed continually, not only during pregnancy, but throughout childhood and adulthood, providing a lifelong cure for sickle cell anaemia or thalassaemia.

New Techniques

In this way, several relatively new techniques—foetal blood transfusion, chorion biopsy, diagnosis of genetic defects directly from DNA analysis, and detection of T-cells from bone marrow using monoclonal antibodies—are needed to treat sickle cell anaemia and thalassaemia before birth. Mr. Rodeck hopes it will be possible to test the whole procedure in monkeys this year, and to start work on humans in two or three years time.

If all goes well, the work could then be extended to treat and cure several other common and at present mainly incurable conditions caused by genetic defects such as cystic fibrosis, Tay-Sachs disease, phenyl-ketonuria and Hurler's syndrome.

The procedure adopted to treat the foetus should be much quicker, simpler and cheaper than giving bone marrow grafts to adult patients because there is no need to destory the patient's own bone marrow to prevent rejection of the graft.

—Courtesy : THE NURSING JOURNAL OF INDIA

Healthy Youth: Our Best Resource

by Dr. Halfdan Mahler*

Kicking up dust on a make-shift football pitch in a Brazil village; running races through the Kenya bush; wrestling in a Bangkok tournament; or breaking world records in the Olympic games: young people's sporting achievements testify that theirs is the age of peak physical fitness.

In 1985, International Youth Year, the world will harvest not only its biggest, but also perhaps its best crop of young people in history. Today's young people are the healthiest age group and are better educated than ever before. Having survived the vulnerability of childhood years, they are intrinsically healthy and, over the last two decades, school enrolment has nearly doubled in the developing world, though they are mainly boys on the school benches.

With better access to the world's store of knowledge, young people are able to grasp and use new ideas. In many countries there are young faces that are starting at the flickering green computer screens, young fingers that are moving like lightning over the keyboards, or creating new circuitry that will itself create new computers.

The potential of youth, if it is to be properly tapped, requires understanding and support. Youth is a very special time with special challenges. This is the period when the body changes from that of a child to that of an adult. It is an age characterized by impatience as well as curiosity, and by a strong desire to leave childhood behind and play an independent role.

More than three-quarters of those between 15 and 24 live in the developing world, and that proportion will probably reach 84 per cent by the year 2000. Thus the challenge is greatest there. A major trend is for youngsters to leave the countryside and migrate to the city in hope of a better life. This erodes the traditional structure of the rural family and replaces it with the stressful, lifestyle of marginal populations living in urban slums. Young migrants are forced to face the challenges of city life without the training or skills that they need. The unemployed in many parts of the world include a very high percentage of young people—many of them illiterate, most of them unskilled and inexperienced. The dice are already heavily loaded against them.

If age is characterized by caution, youth is characterized by a love of risk-taking. Such impulses can be guided to take positive forms-sport, outdoor adventure, social experiments-rather than towards the negative habits of cigarette smoking, abuse of alcohol or dependence on other drugs. Society must also take into account the elements inherent in the spirit of youth, including the urge to seek self-identity and to find an outlet for one's love for others.

The young have a large role to play in health care: they themselves are most aware of their own health problems; they maintain an open mind and represent the group best able to appreciate the basic tenets of primary health care, beginning with the responsibility of caring for themselves.

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*Director General of the WHO

Studies have shown that a majority of youngsters want to help others and want to assume responsibility. A good place to start may be with national community programmes that demonstrate how to keep fit and achieve a healthy lifestyle.

On World Health Day 1985, in the drive towards health for all, every community should take stock of its youthful resource and nurture it for all its promise. The joyous and explosive energy of youth and its natural curiosity are there to be exploited to build a better world.

Courtesy WORLD HEALTH

Primary Health Care: A Volunteer's Experience

—by Lisa Cabrera

This young UN Volunteer was at first thought too young to train and supervise village girls in Sri Lanka in Primary Health Care. At times she wanted to quit. But in the end she proved her worth and felt she never wanted to leave.

Why do we make hospitals a starting point in identifying and meeting patients' needs? Why not the community itself, where people live?

The world is fast recognising not only that acute-care hospitals are the most expensive part of its health care system, but also that such hospitals are not always the most appropriate places for the care and treatment of many health problems. Hospital wards are commonly overcrowded with patients—many of them admitted with preventable conditions that could be more efficiently and effectively handled if more primary health care services were available. Millions of dollars have been spent on medical advancement in the treatment of disease, yet still we wonder why there is not overall improvement in the health of the people. Are people used to seeking medical assistance and taking medication just because of doctors' orders? Or do they believe that Western medicine can, like magic, relieve all health problems? Perhaps, as David Wener tells us, "if you can use what is best in modern medicine, together with what is best in traditional healing, the combination may be better than either one alone."

Primary Health Care is a major concern of organizations seeking to involve young people in health care programmes. The United Nations Volunteers' project of support to Domestic Development Services (DDS) and youth organizations in Asia and the Pacific comprises a considerable number of primary and rural health care activities. When I decided to join the UN Volunteers family, I had one goal—to offer my services to the people. To help those needing care regardless of the artificial barriers erected by men, is one of life's greatest fulfilments.

The day I left the Philippines for Sri Lanka—in September 1982—was a thrilling one for me, travelling alone, far from my parents—a thing I had never done before. When I arrived in Colombo I received a thorough briefing about the Sarvodaya Shramadana Movement, my host volunteer organisation, from another UN Volunteer. She described for me the health programme of Sarvodaya, a non-profit, non-governmental DDS organization striving to promote the awakening of the individual, the family, the town and the nation to the need to develop self-reliant citizens for the betterment of the country.

I was assigned to the District of Anuradhapura to supervise and provide additional training in primary health care for village girls from the Districts of Vavuniya and Anuradhapura. Ten village health care centres are currently being managed by these volunteers, who serve as a link between the villagers and medical personnel in the town. In the beginning I had a hard time adjusting to Sri Lankan customs and traditions. For a while, my host organization lacked confidence in me, believing me to be too young to tackle the work at hand. I worked overtime just to prove that first impressions need not be lasting.

There were times when I wanted to quit-to resign. Yet what held me was the knowledge that I was a representative, in effect, of my own country, and that I had to face the challenges that appeared. And once I had settled down and was fluent in Sinhala, I felt I never wanted to leave.

A community survey, made by a group of health volunteers in 1981-82, had revealed that remote villages were not only deprived of dispensaries, but also were not reached by government services. Malnutrition prevailed among children and adults because of poverty and ignorance of basic health care, and water-borne diseases were common throughout the district of Anuradhapura.

Wide-ranging programme

As a result of the survey, we volunteers proposed a project to establish first aid clinics, to build latrines, to initiate a poultry-raising project, and to conduct health education classes. UNICEF lent assistance. We ran clinics in five villages. We provided assistance and training in first aid care, malaria eradication, infant weighing programmes, soya bean cooking demonstrations, oral rehydration therapy, immunization campaigns, family planning, nutrition, deworming campaigns, community organization, prenatal and postnatal examinations, latrine construction, home gardening, and hospital referral. A monthly report of these activities was submitted to the Sarvodaya district centre, and I conducted regular visits to monitor the programme. To supplement the latrine construction project, we ran health education classes on the disposal of waste products and on hygiene. By the end of December 1982, 150 latrines had been completed. Early in 1983, we arranged a health training programme.

Another project proposal was designed to develop similar health activities in five more remote villages. Newly opened first aid clinics were financed by the special UN Volunteers/DDS Fund, as were a series of five new poultry-raising units, one in each village. The purpose of the poultry units was to generate additional income to support the health volunteers and the first aid clinics. It was also an attempt to improve the economic status of the health workers and thus to strengthen their initiative in managing the clinics.

The poultry units are being managed by youngsters previously trained by a UN Volunteer working with Sri Lanka's National Youth Service Council (NYSC). Each poultry unit consists of 25 chickens, and half of the feed used comes from food available locally. In mid-1983, latrine construction began in these villages also and another 75 latrines were constructed in Anuradhapura District, with assistance from UNICEF. There were additional activities in the fields of nutrition, and malaria and leprosy control.

In launching any project, it is very important to start discussing with the people involved their day-to-day concerns. During one village meeting on the planning of a latrine project, a half-drunk man stood up from the crowd and commented, "I don't give a damn whether or not we have latrines. What bothers me is where to look for money to feed my children—six boys and six girls."

The villager's scepticism reminded us community health workers how important it is not only to launch community development activities, but also to show concern, to provide an opportunity for the people involved to voice their problems and worries, and to discuss with them possible solutions. True social change is heavily dependent on the self-confidence and participation of the people involved. About four out of six cases at the district health centre are "self-limiting", in other words, they can be handled without medical treatment. Nevertheless, such pa-

tients do need friendly advice and understanding support.

Assisted by the Sarvodaya Movement, we also conducted a three-month training programme for village youngsters. The programme consisted of one and a half months of theoretical lectures and one and a half months of hospital and field work. An effort was made to develop in young people a volunteer spirit and a sense of mission in channeling health care services to the people. The youth trainees took their practical training at Anuradhapura General Hospital, at Lanka Nursing Homes, and at the Ayurvedic Hospital, where patients are treated with herbal medicines. All primary health care volunteers worked hand-in-hand with government health personnel. We also organized and operated refugee camps in Vavuniya and Mullaitivu Districts, where refugees from the recent civil disturbances received assistance.

Gradually, the local inhabitants come to realise that the maintenance of good health and the prevention of disease by all means available is more effective and economical in the long run than treating people after they have become ill.

Courtesy : WORLD HEALTH

UN VOLUNTEERS

Since it first started its operation in 1971, the United Nations Volunteers programme has responded to developing countries' needs for qualified manpower by providing several thousand technically skilled young men and women to work within a wide range of development activities. In doing so, UNV has become the United Nations' foremost supplier of middle-level and upper-level "operational" experts—specialists who work closely with their counterpart personnel and help to train them. Some 1,000 UN Volunteers are now in the field, working in more than 90 countries and representing more than 50 professional categories.

The programme is currently in need of qualified motivated candidates to serve in developing nations in all fields, including health care. For further information write to: UN Volunteers, Palais des Nations, CH-1211 Geneva 10, Switzerland.

A Sensible Approach to Asthma

Asthma is a trying ailment and a common one. It is no respector of age, sex or country. Thanks to medical advances, doctors are better able to treat this malady that can take all the joy out of living.

Asthma, doctors tell us, is most often the result of an allergy-seventy five per cent of all asthma cases are caused by a concrete substance, something you touch, smell or eat. House dust and fur can do it. Feathers in pillows, particles from wool, and chemicals such as bleaches and dyes may disturb you. A man may be bothered by his wife's face powder, a woman may suffer an attack when she bakes because of sensitivity of wheat flour. A frequent cause asthma in children is allergy, to eggs, wheat, and milk.

One man noticed that his bouts of coughing and choking always started on Sunday. Investigation showed he read the rotogavure section of the weekly paper every Sunday afternoon. On a hunch, the family doctor banned the picture paper. The attacks disappeared.

If you are unlucky enough to suffer an asthma attack, what actually happens? Your chest tightens, and you have s struggle for breath. Air has trouble entering the lungs, but more when trying to escape, and as a result expiration is prolonged and accompanied by a strained wheezing sound. You obtain some slight relief when sitting up. Many sufferers are forced to sleep this way.

Cure is not simple. To lessen immediate distress, the physician has certain medications at his command. The actual cure may require months of patient study, when your doctor turns Sherlock Holmes, tracking down every possible clue. He inquires about your family backgrounds, for asthma can be passed from parents to children (if you are a sufferer, your children are not necessarily doomed). He goes back to your first wheeze, and through questions learns how long an attack lasts and its severity. He wants to know all about your job, the furnishings in your home, the food you eat, your favourite sports, all to find out the cause of your attacks.

Treatment is a slow, uncertain process. Your doctor may prescribe a basic diet, then add items until the food causing the trouble is pinned down. He may give simple skin tests, often a dozen at a time. He injects drops of various extracts-pollen, foods, other substances-into the skin or places them on skin scratches. If you are sensitive to the substances being tested, itching red welts appear. If the allergy is found, you must rearrange your life so that you avoid the offending substance. If animal dander is the cause, your pet dachshund will have to be boarded with relatives and horse-back riding become only a memory. Should it happen that the troublemaker cannot be avoided your doctor may give you a series of inoculations to build up your immunity.

Some medical men believe that allergies have their basis in psychoneuroses, and studies indicate that asthma may in some cases be a state of mind-a symptom, not a disease at all. Inner conflicts or emotional stress can cause severe attacks. Today's physician treats the person as well as the disease.

There is still much to be learned, but revolutionary cures may be on the way. One sociologist points out that psychosomatic medicine promises to find the reason why executives suffer ulcers and old maids get asthma. Study has proven that youngsters neglected by their parents tend to become asthmatic.

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Time and You: Ten Tips on How Best to Use Your Time

—by David Gunston

Broadly speaking, we are all given the same, allocation of time. The question then, How best can we use it? is one we must all answer. Here are some suggestions:

1. Take time to think. It is the source of power. Nobody has achieved anything without thought, often long and hard thought, yet all too often we see people acting thoughtlessly, refusing to think things through beforehand.

   A life that never devotes plenty of time to thinking—about the mystery of life itself, its meaning and purpose, great issues, great wonders, great lives—is not really a life at all, but a mere existence.

2. Take time to work. It is the price of success. There is luck, occasionally, and for some, but one can never rely on mere luck. There are no real short cuts to success. It comes only through work and effort, as the life of any successful person will confirm. It is worth remembering, too, that work plus thought and planning is in the longrun worth much more than work plus luck and hopefulness.

3. Take time to play. It is the secret of youth. All work and no play, however, not only makes Jack a dull boy, but also means he misses out on so much of the best that life has to offer. The old thing is that people who think and plan and work hard are the very ones who manage to play hard as well. Play can and should be an important part of daily life, not just an antidote to work, but the area in which we can give free rein to other parts of our natures our competitivenss, our relation to physical activity, our need to let off steam, become playful jovial beings.

4. Take time to dream. It is the highway to the stars. No life should be so full of care and the need to earn a living and fulfil responsibilities that dreaming has no part in it. Man has always been a dreamer: that's why he doesn't live in caves or mud huts any more. Fulfil that side of yourself, standing, and you will be all the better and happier for it. The only danger comes when dreaming takes the place of real life.

5. Take time to laugh. It is the music of the soul. For all the advances of modern science, laughter is still the best medicine for everybody. A good laugh is unique in that it benefits us physically (enriching heart and lungs with extra oxygen, stimulating the whole nervous system) and emotionally. Laughter cuts things (and people) down to size, shrinks problems, unites us all.

6. Take time to be friendly. It is the road to happiness. We are not here to see through one another, but to see one another through, as one wag said. And it is very true. No person is an island, or would really want to be Friendliness is never wasted, never an investment bringing only loss. The realization of this fact becomes stronger as one grows older.

(*Contd. to Page 29*)

Conserve Your Vital Force

Self-control is one solution to stress factors that deplete vital energy.

by Armand T. Fabella

"Awful" is our common expression whenever we see something precious being wasted or lost. Take the case of a tanker that has collided with another ship, and all its crude oil gets spilled out into the sea. Or someone who has neglected to put off those big neon lights and they keep on shining brightly even at daytime.

One noontime I parked my car somewhere in Baclaran. When I stepped out, absentmindedly took the key from the ignition without turning it off. I did not hear the muffled sound of a running engine. For one hour my car continued on "idling," burning its gas for nothing, while my friends and I were enjoying our lunch together in a nearby restaurant.

Yes, we shake our heads whenever we have lost or wasted something valuable. But within us there is a more precious energy which we often waste and abuse. This has to be conserved and used wisely.

A capital energy for each human being. After forming man out of dust, the Creator "breathed into his nostrils the breath of life; and man become a living being." In Hebrew, what God breathed into man is called as ruach which means "spirit." In Greek it is pneuma. This life-giving principle is a divine energy given during conception to every human being. It is this vital force that enables man to live through this world of sin and suffering, to experience delight and satisfaction, and to function as a "living soul." Through such power man is able to adapt himself to his environment no matter how stressful it may be.

In the late 1800's Ellen White wrote "God endowed man with so great vital force that he has withstood the accumulation of disease brought upon the race in consequence of perverted habits, and has continued for six thousand years. This fact of itself is enough to evidence to us the strength and electrical energy that God gave to man at his creation. It took more than two thousand years of crime and indulgence of base passions to bring bodily disease upon the race to any great extent. If Adam at his creation, had not been endowed with twenty times as much vital force as men now have, the race, with their present habits of living in violation of natural law, would have become extinct".

From our conception, each of us received from our parents certain amount of life-giving energy. Such amount is fixed but enough to last for a lifetime. However, one's span of life may be cut short by the early exhaustion of the God-given reserves. Ordinarily, "as for the days of our life, they **if we recklessly exhaust our vital force, we shall sometimes be losers.** Contain seventy years, or if due to strength, eighty years."

As expressed by Ellen White: "God has endowed us with a certain amount of vital force. He has also formed us with organs suited to maintain the various functions of life, and He designs that these organs shall work together in harmony. If we carefully, preserve the life, force, and keep the delicate mechanism of the body in order, the result is health; but if the vital force is too rapidly exhausted, the nervous system borrows power

for present use from its resources of strength, and when one organ is injured, all are affected."

"Those who make great exertions to accomplish just so much work in a given time," Ellen White explains, "and continue to labour when their judgement tells them they should rest, are never gainers. They are living on borrowed capital. They are expending the vital force which they will need at future time. . . . . God has provided us with constitutional force, which will be needed at different periods of our lives. If we recklessly exhaust this force by continual over-tazation we shall sometimes be losers'.

Dr. Hans Selye, a world's authority on stress, calls this vital force as adaption energy. Based on his animal experiments and medical observation, Dr. Selye concludes "that at birth each individual inherits a certain amount of adaptation energy; the magnitude is determined by one's genetic background. One can draw upon this capital thriftily for a long but monotonous, uneventful existence, or spend it lavishly in the course of a stressful, intense, but more colourful and exciting life."

Adaptation energy is like a special kind of bank account which you can use by withdrawals but cannot increase by deposits. Your only control over this most precious fortune is the rate at which you make withdrawals.

After exposing ourselves to very stressful activities, can a rest not restore us to where we were before? "No," said Dr. Selye. "Experiments on animals have clearly shown that each exposure leaves an indelible scar, in that it uses up reserves of adaptability which cannot be replaced."

Adaptation energy is not merely caloric energy which comes from the food we eat. Just as any inanimate machine gradually wears out, even if it has enough fuel, so does the human machine sooner or later become the victim of constant wear and tear.

Hans selye made a distinction between superficial and deep adaptation energy. "Superficial adaptation energy is immediately available upon demand, like money in a bank account that is readily accessible by writing out a check. On the other hand, deep adaptation energy is stored away safely as a reserve, just as part of our inherited fortune may be invested in stock and bonds, which must first be sold to replenish our checking account, thus furnishing another supply of immediately usable cash. Still, after a lifetime of constant expenditure, even our last investments will be eventually exhausted if we only spend and never earn."

This process, otherwise known as "general adaptation syndrome" (G.A.S.) is the body's way of responding to any demand which calls for readjustment or adaptation in order to maintain normalcy. However, it puts the body under stress. It comes in three stages, namely:

(a) the alarm reaction,

(b) the stage of resistance, and

(c) the stage of exhaustion.

After the initial alarm reaction, the body becomes adapted and begins to resist, the length of the resistance period depending upon the body's inate adaptability, and the intensity of the stressor. Yet, eventually, exhaustion ensues.

Hans Selye stated that only, the most severe stress leads rapidly to the stage of exhaustion and death. Most of the physical and mental stressors which act during a limited period produce changes corresponding only to the first and second stage of the G.A.S.: at first, these stressors may upset and alarm us, but then we get used to them. Everybody goes through the first two stages many, many times; otherwise, we could never become adapted to perform all activities and face all demands.

It is only when the whole organism is exhausted and hopelessly encumbered by the accumulated chemical wastes of life that one enters into the terminal stage of exhaustion of the G.A.S. This happens in senility at the end of a normal life span, or through the accelerated aging caused by excessive stress. Only when all our adaptability is used up will irreversible general exhaustion and death follow.

Stress Factors contributing to the Depletion of Vital Energy

Dr. Selye listed various stress factors involved in using up a person's adaptation or vital force. Among these are: mechanical (i.e. accidents,) psychological, (i.e. worry and fear), chemical, (i.e. drugs), bacterial, (i.e. disease), and physiological, (i.e. defects).

A side from what Hans Selye mentioned, Ellen White pointed out other specific elements that contribute to the depletion of vital energy. She said: "Whatever disturbs the circulation of the electric currents in the nervous system lessens the strength of the vital powers, and the result is a deadening of the sensibilities of the mind."

In this statement of truth, the electric currents that circulate through the nerves are equated with the vital powers which give us strength. Thus if the circulation of these currents is disturbed, having sort of a short circuit, the strength of the vital energy is lessened which in turn leads to a "dimming" of the mental faculties. What are the elements that disturb the circulation of the electrical energy of the body?

Tobacco. "Those who acquire the unnatural appetite for tobacco, do this at the expense of health. They are destroying nervous energy, lessening vital force, and sacrificing mental strength." Such effects are brought about by nicotine, tar, carbon monoxide and other noxious elements. Hence smokers are highly prone to suffer from various cancers, heart disease and other ailements.

Liquor. "The use of liquor or tobacco destroys the sensitive nerves of the brain, and benumbs the sensibilities. "This is due to alchohol which affects primarily the higher faculties of the brain and other organs of the body especially the liver.

Drugs. "Drugs always have a tendency to break down vital forces." Physicians therefore must be discreet in their prescription of drugs; much more so, those who engage in selfmedication.

Tea. "The use of tea spurs up nature by stimulation to perform unwanted, unnatural action and thereby lessens her power to perform, and her powers give out long before Heaven designed they should."

Coffee. "It temporarily excites the mind. . . . but the after effect is. . . . . exhaustion, prostration paralysis of the mental, moral, and physical powers. The mind becomes enervated, and unless through determind effort the habit is overcome, the activity of the brain is permanently lessened." Both tea and coffee contain caffeine which produces such effects both in the mind and body of the drinker.

Overeating. "The brain nerve energy is benumbed and almost paralyzed by overeating." Furthermore, "continual overeating uses up the vital forces, and deprives the brain of power to do its works."

Irregular eating. "The digestive organs, like a mill which is continually kept running, become enfeebled. Vital force is called from the brain to aid the stomach in its overwork, and thus the mental powers are weakened." By eating between meals or excessively during mean time, you intend to store more caloric energy but at the expense of your stored

adaptation energy. What do you gain then? Nothing.

Sugar. "Sugar clogs the system. It hinders the working of the living machine." Moreover, anything that hinders the active motion of the living machinery, affects the brain very directly. Sugar, when largely used, is more injurious than meat." This comes by eating ice-cream, cakes and other desserts as well as candies and soft drinks.

Flesh foods. "He permitted long-lived race to eat animal food to shorten their sinful lives. Soon after the flood the race began to rapidly decrease in size, and in length of years."

"As a general thing, the Lord did not provide His people with flesh meat in the desert, because He knew that the use of this diet would create disease and insubordination. In order to modify the disposition, and bring the higher powers of the mind into active exercise, He removed from them the flesh of dead animals.

"The moral evils of a flesh diet are not less marked than are the physical ills. Flesh food is injurious to health and whatever affects the body has a corresponding effect on the mind and the soul."

Lack of exercise. "Those who are engaged in constant mental labour, whether in studying or preaching, need rest and change. The earnest student is constantly taxing the brain, too often while neglecting physical exercise; and as the result the bodily powers are enfeebled, and mental effort is restricted." Many of them have suffered from severe mental taxation, unrelieved by physical exercise. The result is a deterioration of their powers and tendency to shirk responsibilities." A balanced activity of mind and body promotes a smooth and harmonious circulation not only of the blood, but also of the electrical currents around the system. Strength is evenly distributed. Homeostosis is maintained.

Condiments and spices. "Under the head of stimulants and narcotics is classed a great variety of articles that, altogether, used as food or drink, irritate the stomach, poison the blood, and excite the nerves. Their use is a positive evil."

"Spices at first irritate the coating of the stomach, but finally destroy the natural sensitiveness of this delicate membrane. The blood becomes fevered, the animal propensities are aroused, while the moral and intellectual powers are weakened, and become servants to the baser passions."

Self-abuse (masturbation). "The body is enervated, the brain weakened. The material deposited there to nourish the system is squandered. The drain upon the system is great. The fine nerves of the brain, being excited to unnatural action, become benumbed and in a measure paralyzed."

In view of its thrilling effect, this habit is reinforced until it becomes a vicious cycle and the person gets hooked into it. Considering the waste of so much energy, masturbation is truly self-destructive.

Sexual excess. "Sexual excess will effectually destroy a love for devotional exercises. will take from the brain the substance needed to nourish the system and will most effectively exhaust the vitality. There is no difference between excessive sexual intercourse by a couple and masturbation of one person, except that the former is covered by a cloak of marriage. Both are committed in the name of lust, and the effect on the nervous system is the same.

Ill-chosen reading. "The memory is greatly injured by ill-chosen reading, which has a tendency to unbalance the reasoning powers and to create nervousness, weariness of the brain, and prostration of the entire system." This is especially true when one feasts on pornographic literature as well as on fiction, ro-

mance, "detective" stories or materials that are lewd and full of fantasy.

Guilt. "Guilt and sorrow. . . . crush the life forces."

Doubt and grief. "The assurance of God's approval will promote physical health. It fortifies the soul against doubt, perplexity, and excessive grief, that so often sap the vital forces and induce nervous diseases of the most debilitating and distressing character.

Worry. "The continual worry, is wearing out the life forces."

Anger. "Every one of these exhibitions of wrath weakness the nervous system."

All of these feelings and emotions-guilt and sorrow, doubt and grief, worry and enxiety and anger cause short circuit of electricity in the nervous system. Consequently, much energy is withdrawn from the internal bank and is spent needlessly. What a waste

How to conserve the Vital Energy

Minimize stress. Since adaptation energy is vital to cope with the daily stress of life, it is logical that the latter be minimized and properly managed. Severe stress leads to the stage of exhaustion when the body can no longer tolerate and has already used up its adaptability.

This calls for a restructuring of the stressful situation and of stressprone personality.

Practise temperance. In view of the abovementioned stress factors that contribute to the depletion of the vital energy, one solution to conserve this precious treasure is to practice temperance. According to Ellen White, "True temperance teaches us to abstain entirely from that which is injurious, and to use judiciously only healthful and nutritious articles of food".

This means that we abstain totally from taking tobacco and liquor, tea and coffee, condiments and spices as well as from indulging in masturbation and illicit/excess sex. Overeating and eating between meals are avoided, likewise the eating of flesh food. Sugar and other articles of food are used judiciously.

The key to such practice is selfcontrol.

Conform to natural laws and remedies. The human system is governed by laws of nature. Breaking these laws leads to a short circuit of the electrical energy which in turn lessens the vital force and makes the human system vulnerable to illness. To prevent such consequences, the laws of nature must be obeyed.

Nature has true remedies which, if applied, enhance our health and healing. Ellen White cited eight natural remedies;

1. Pure air;
2. Sunlight;
3. Abstemiousness;
4. Rest;
5. Exercise;
6. Proper diet-vegetables, nuts, grains and fruits;
7. Use of water;
8. Trust in divine power.

Develop and maintain emotional stasis. Emotional stasis is defined as "the ability to meet a wide variety of life situations, the bad with the good, with emotions like equanimity, resignation, courage, determination, cheerfulness, and pleasantness.

Dr. John Schindler pointed out that the physiologic effects of the good emotions are just as great in the right directions as the effects of the bad emotions are in the wrong directions. Good emotions have two general effects. First,

they replace the bad emotions which were producing stress effects; and secondly, they produce their own pituitary effect which is an optional balance of endocrine function.

As stated by Ellen White: "Courage, hope, faith, sympathy, love promote health and prolong life. A contented mind, a cheerful spirit, is health to the body and strength to the soul".

Take hold of an outside power. Though man is endowed at birth a certain amount of power that would last for a lifetime, he can still avail himself of a tremendous power above and outside himself. "But you shall receive power when the Holy Spirit has come upon you." said Jesus. By taking hold of the divine power through the Holy Spirit, much can be accomplished. And man's innate vital power is conserved.

"There is no limit to the usefulness of one who, putting self aside, makes room for the working of the Holy Spirit upon his heart and lives a life wholly consecrated to God. All who consecrate body, soul and spirit to His service will be constantly receiving a new endowment of physical, mental and spiritual power."

God offers His power to you-full and free. Take it by faith.

Channel your energy to worthwhile activities. To avoid wasting of the precious power, it has to be channelled to and utilized for worthwhile, activities. Plan out what you can do for the day and in the near future. Aside from your regular activities and responsibilities at home and in your place at work, think of a project through which you can put your creativity and actualize yourself.

Above all, make use of that God given power to reach out for others and share something with them. You can make someone's life happier and this world a better place to live in.

Remember, the vital force that you have is just enough for your life time. You live and pass this way but once. Use that vital force wisely.

E.G. White was a prolific writer on health and moral subjects.

"Courtesy : THE HERALD OF HEALTH"

(*Contd. from Page 15*)

When a new baby brother appeared in the Reddi household, five-your-old Lakshmi came down with an asthma attack. Routine food and skin tests met with failure. When the family physician suggested that a dented ego might be behind Lakshmi's illness, her parents were sceptical but eager to cooperate. They set out to assure their first-born that she had lost none of their love. In a short time Lakshmi's health returned to normal.

The child whose mother is a perfectionist, demanding adult standards from him, may, fall victim to asthma. Such a child is under constant mental strain, and the body breaks down at its weakest point-in this case the respiratory system.

Attacks have been traced to early childhood fears. One woman who as a child had been accidentally looked in a closet developed her first attack of asthma on a crowded elevator.

Hippocrates' warning that the asthmatic must guard against temper is still sound advice. Even among people with purely allergic asthma, attacks are more severe during emotional upsets.

Children stand a good chance of being cured, of growing out of the complaint. For the adult, medical science offers more hope today than ever before. And no matter how many nights you are forced to sit up struggling for one easy breath asthma alone will not likely be the death of you.

"Courtesy : THE HERALD OF HEALTH"

Some Suggestions to improve Nutrition in these Hard Days

J.D. Pathak

Food, shelter, clothing are basic needs of men. To this list may be added several items like medicines, transport, communications and others.

It is almost impossible for persons of middle class with fixed income to even maintain themselves let aside the question of retaining their former standard of living.

Importance of proper nutrition cannot be overstated. Nutritional standards though difficult, to a certain extent can be maintained if protective foods are made available at affordable cost. The rest items of food can be supplemented without much undermining the nutritive standard.

Considering the common defects of Indian diets, the main protective foods, are:

Proteins

Animal proteins :

Eggs, meats, fish, milk and its preparations (though non-vegetarian are acceptable to vegetarians).

Vegetable proteins:

Pulses, soyabeans, groundnuts.

Minerals

Calcium-milk, cheese: liver, meats, green leafy veg.

Iodine

Salt from sea, fish.

Vitamins

A — milk, butter, ghee, fish oils, greens.

B — milk, yeast, meats, sprouted pulses.

C — sour fruits, e.g. 'ambla'.

To illustrate, any individual getting 500 ml milk; 25g butter or ghee; or 1 teaspoon fish liver oil; 50 g green leafy vegetables, alongwith what foods he can procure from market can still be fairly nourished. If 30% of the calories can be had from such protective foods, the rest of the calories may safely be supplemented from cheaper items.

Milk powder programme was initiated and supported by W.H.O. but there were many flaws in its distribution to right deserving people In many places this milk powder, gifted by generous agencies was sold in black market by unscrupulous agencies. In scarcity of natural milk, 'milk' made from groundnuts or soyabean is suggested. Their composition is compared in Table 1.

Some countries made their 'multipurpose foods' with similar aims. The Indian multipurpose food planned to be sold at 15 paise for 100 grams (by Central Food Research, Mysore) never saw the light of the day for some reason. Composition of M.P.F. and some others is given in Table 2.

As an alternative, cheaper protein foods like groundnuts, soyabeans, pulses may be made available at concession. From sprouted pulses and cereals, it is possible to secure better nutrition without additional cost. Some of the protein vitamin deficiencies can be corrected if these sprouted items are taken regularly.

Further, by preventing deterioration or loss of nutrients in preparation of foods, some improvement in diet can be made withou additional cost.

For instance the nutritive value is much reduced by :

TABLE I

Chemical composition of soyabean and groundnut milks as compared with cow's milk (Values per 100g)

Nutrients	*Soyabean milk*	*Groundnut milk*	*Cow's milk*
Protein (g)	2.4	3.0	3.2
Fat (g)	2.5	5.2	4.9
Carbohydrate (g)	3.2	3.1	4.6
Calcium (g)	0.08	0.11	0.11
Phosphorus (g)	0.104	0.102	0.07
Iron (mg)	1.2	1.47	0.2
Calorific value	51	71	75
Thiamine (mg)	0.042	0.085	0.045
Riboflavin (mg)	0.04	0.03	0.17
Nicotinic acid (mg)	0.24	1.11	0.1

Note : One teaspoonful of shark liver oil or vitamin A and D concentrates should also be used daily along with soyabean and groundnut milks, to supply vitamins A and D.

TABLE II

The chemical composition of Indian MPF as compared with that of American MPF, and skimmed milk powder (Values per 100 g)

Nutrients	*Indian MPF*	*American MPF*	*Skimmed milk powder*
Protein (g)	42.9	42.3	35.6
Fat (g)	8.5	7.6	1.0
Carbohydrate (g)	35.8	36.9	52.0
Calcium (g)	0.665	0.587	1.3
Phosphorus (g)	0.820	0.440	1.03
Iron (mg)	5.1	7.0	0.6
Thiamine (mg)	1.3	0.7	0.35
Nicotimic acid (mg)	14.3	7.0	1.1
Riboflavin (mg)	3.0	1.2	1.95
Vitamin A(I.U.)	3000	2940	40
Vitamin D (I.U.)	300	235	nil
Calorific value	387	386	359

Ref : Swaminathan and Bhagavan—Our Food, (1969) * p. 68 ** p. 73.

(a) over washing and discarding water in which foods like rice, vegetables are cooked,

(b) discarding the outer layers, siftings in case of flour of wheat, bajra and others.

(c) over cooking, repeated cooking of foods and

(d) in storing cooked foods,

(e) discarding outer edible layers of vegetables, fruits and their seeds,

(f) throwing away useful articles like groundnut meal after expressing oil, etc.

(g) addition of soda, and similar chemicals, which much reduce the nutritive values.

By intelligent application of above facts, one may still continue to obtain adequate nutrition, inspite of the rising prices.

Some common cereals and pulses can be easily sprouted by soaking in water for a day and keeping them tied up for another day.

Such sprouted grains not only are easier to digest but the procedure adds to their nutritive value, .e.g. proteins and vitamins. They now have more than twice the amount of Vitamin B Complex and C as compared to the unsprouted forms. Besides, some yet undiscovered factors and enzymes are said to be added, which also are very essential. This inexpensive method of improving one's nutrition is hence much recommended.

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Courtesy THE BOMBAY HOSPITAL JOURNAL

Stress Management

Ms. Veroni Thomas

STRESS is a fact of life. We are under stress from womb to tomb. Stress is an individual's physical, mental and emotional reaction to a condition that disturbs normal equilibrium. Stress is any condition that harms the body and breaks down or causes death of few or many cells. Nobody can escape stress. It is the effect of all the wear and tear caused by living.

Stress is good and needed for people to grow to their full *potential*. So when we talk of stress management we do not mean eliminating all stress from our life. But how to cope with our daily quota of stress. Someone coined a word "incompatibility" to describe people without much physical illness but find themselves unable to cope with life situation anymore and hence transfer their anxiety into physical symptoms.

When we say a person is under stress we notice certain signs and symptoms in the individual. For example:

Stomach upsets (gastro-intestinal upsets) such as indigestion, nausea, vomiting, diarrhoea, constipation, etc.

Tense look, staring eyes, fast or rigid movements, stiff neck, stiff muscles, shaking, sweating, etc.

Rational thinking is diminished-restlessness at all times and often sleeplessness.

Emotional outbreaks are frequent—over-excitement, crying or shouting for any small irritations.

Selfishness and self-centredness seems to be common feature.

Spiritual values diminish gradually.

How the body reacts to stress depends on how the mind reacts to stress. How the mind reacts to stress depends on how it has learned to relax. So the relaxed mind is the key to health, and here comes the stress management.

Man is what his heart is, and whatever he says or does springs from the heart. There is a growing recognition that the deepest level of man's nature or *core* of his being is beautiful and there dwells the Supreme *Power*. Man is made in the image of God. If we can get in touch with the "Inner Self" or "Still Point" daily we will have the energy to cope with situations which cause stress. So the management of stress can be spelt out as the following:

SET aside sometime for meditation or dhyans.

TACKLE the emotions properly. Appropriate expression of emotions lead to health.

RECOGNIZE the frequency and cause of stressful situations and its consequence and be prepared to handle them.

ESTABLISH proper interpersonal relationships.

SEEK moderation in all dimensions of life (a balanced living).

SMILE and this will relax our face and that of others too.

MAKE facilities for proper exercise, rest and relaxation.

ACCEPT ourselves as we are and others as they are with their strengths and limitations.

NURTURE the mind with divine doctrine.

ATTEMPT to modify stressful situations.

GET in touch with your feelings and rationalise your emotions and act accordingly.

ESTABLISH priorities of values.

MODEL your life on a "simple life style".

EVALUATE your life before going to bed everyday. Ask pardon from God and others if we have done anything wrong in word or deed or omitted to do something good.

NOURISH the body with a balanced diet—preferably vegetarian diet.

THANK GOD for our "LIFE". Live for others. This is the secret of happiness.

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Courtesy : THE NURSING JOURNAL OF INDIA

(*Contd. from Page 17*)

7. Take time to read. It is the foundation of wisdom. No one can acquire too much wisdom or even too much knowledge; and reading is the quickest and pleasantest way to acquire both. Books always light a candle in the mind that goes on burning for long after, maybe for a whole lifetime; and a good book once read never leaves its reader the same as he was before. He is always a better person for having read it. Those who never make time to read, widely and constantly and deeply, are infinitely the poorer.

8. Take time to look around. It is the short cut to unselfishness. Not only is there always sure to be someone worse off or lonelier than yourself who can be helped, the world is based in every way on variety. So observe everyone and listen to anyone, even the seemingly dull or ignorant; they too have their story and may have something to offer you in word or deed. Never be too busy to stand and stare, to be an interested spectator. That way a great deal of value may be learned.

9. Take time to relax. It is the key to long life. Develop and retain always the ability to "switch off." This means much more than merely not taking worries to bed with you; it means refusing to allow any one aspect of life to monopolize all your time and thought. Ultimately it means enjoying life to the full, come what may.

10. Take time to pray. It is the way to heaven. Human beings have always had a strong sense of awe before the infinite, of something far bigger than themselves. Prayer in one form or another is a basic human need, always felt, as witness the agnostic who appeals to "something out there" when in extremity of danger or concern. By responding freely to this deepest impulse you will link yourself to the power of the universe, a divine power not in ourselves but favourable to us.

"*Courtesy* : THE HERALD OF HEALTH"

To Kill or not to Kill?

—Mrs. Rosamma Ninan

EUTHANASIA, according to Dorland's *Medical Dictionary*, means putting to death of a person suffering from an incurable disease. The *Universal Webster Dictionary* gives its meaning as killing incurable in painlessly. When a person with an incurable disease embraces death voluntarily with professional help, it may be defined as voluntary euthanasia.

Is it justifiable to kill a person even if he wants so? Is the remedy for suffering killing? What way can it affect the individual and society?

A disease that falls under 'incurable' today will not necessarily be the same tomorrow. For instance tuberculosis was an incurable disease in the past till the discovery of antitubercular drugs. Same way many other diseases had no treatment in the past. But now only a few diseases are beyond the control of medicine. I remember a story in which the main character was affected by a fatal disease. Disappointed, he committed suicide and a newspaper report was out the following day of his death. The report was about an invention of a drug which is able to cure the disease in question completely.

In extreme pain due to certain disease, it is natural for a person to welcome death because of his inability to suffer. Immediate relief of pain is more important for him as compared to death in this kind of situations. The enactment of a Bill supporting voluntary euthanasia implies the encouragement to die instead of facing reality.

Corruption, exploitation and immorality are gaining their strength more powerfully in modern world. Under the disguise of voluntary euthanasia it will be a good opportunity for a new form of murder to come up.

Human life has great value in its true sense and it is to be respected. Each life is important in itself, it is not to be destroyed but to be repaired and maintained till the last breath.

Desire to live is great in human being as long as he is wanted in the society. When voluntary euthanasia becomes the pattern of the day one may feel that he is between the devil and the deep sea. On one side he is with a keen desire to live; on the other side he feels that he is looked down upon by the society as he is not willing to accept death because the attitude of the people who take trouble to look after him may be such that he has to linger on like this giving trouble to others instead of choosing death. This attitude of the society may impress upon the sick person that he is unwanted and useless.

The functions of medical and nursing profession is to preserve and promote life, not to destroy it. Their effort is meant to improve the gasping patient, they don't stop their attempt even if all signs of life have disappeared. Even a gasping patient is a challenge to them. They work with the hope of saving each life entrusted to them instead of looking at them with a pessimistic view. Euthanasia will only hinder the motivation to work hard and to do research.

It is not uncommon that in the beginning of the treatment the effect of medicine may not be evident. During this time the patient who has lost all his hope may choose to die

and the discouragement of the doctor and the nurse is imaginable.

As the life is ended in the beginning of any incurable disease man has no chance to do any study on that case in relation to its treatment.

Insecurity feeling will be another effect of voluntary euthanasia. Since the provision of voluntary euthanasia is present one will be afraid of the same when he is stricken by any disease, the healing of which is delayed. The enactment of the Bill may force him to accept the voluntary death unwillingly as he may think why he should give trouble to others.

May times it is not necessary that a disease is incurable as the diagnosis may be wrong. Even if the diagnosis is correct a disease incurable in one system of medicine need not be incurable in another system. In some cases Ayurvedic treatment may succeed where Allopathy has failed and vice versa.

Taking all the above points into consideration should we support or reject voluntary euthanasia?

(Courtesy : The Nursing Journal of India)

PRESS RELEASE

The Community Health Workers Basic Course No. XII will be conducted at the St. John's Medical College, Bangalore from 5th August 1985 to 31st October 1985. This is a residential training programme for lay brothers and sisters engaged in (or those who propose to be engaged in) Rural Health and Development. Two such basic courses are organised each year. Health Care training is imparted in Preventive, Promotive and Curative services, at the Department of Community Medicine, St. John's Medical College Hospital and the Rural Health Centres. Additional Training in First Aid, Home Nursing and Planning for rural Development Programme, is also imparted.

Those interested, particularly Major Religious Superiors, may please contact The Principal, St. John's Medical College, Bangalore-560 034.

Sd/-
Secretary
C.B.C.I. Society for Medical Education
St. John's Medical College

Medical Ethics Forum

—by Fr. George Lobo, S.J.

Refusing to Eat

Case : **A young woman badly handicapped by multiple sceloris refused all food. She was able to chew and swallow with relative ease; but the deteriorated condition of her hands necessitated others' feeding her. Was her refusal of food justified by steadily increasing dependency on others for this and other basic needs, the apparently hopeless prognosis of her condition and her feeling that life was for her generally lacking in fulfilment? Would the hospital have been justified in force-feeding her?**

Everyone has the obligation of using ordinary means of preserving life. Simple nourishment is the most basic of all such means. Those who believe that human life is a gift of God would more readily agree that there is an obligation to eat in order to live.

It is true that a patient may not be bound to take food in vain. Thus a patient who has only a few short hours to live need not take food. A patient who cannot retain any food need not go through a mere ritual of eating if there is no hope that the purpose of eating will not be at all achieved.

However, where normal intake of food is possible for a given person and will significantly prolong life, be it ever so diminished or ever so emotionally unsatisfactory, then the patient has no normal right to refuse food. It would amount to suicide, although by omission.

Society may find it impossible to snatch from the hand of every would be suicide the poison with which he would want to end his life, or to force-feed every despondent patient who seeks to starve himself, it has the right and duty to do, even using force if necessary as a last resort.

The case is significantly different when artificial feeding is used as a substitute for normal eating which is physically no longer possible for a particular person. The stroke victim who can no longer swallow may not be morally obliged to submit to a frame of artificial feeding which he or she finds extremely painful. A case can be made also for withholding or withdrawing artificial feeding from irreversibly comatose patients. In such a case when the power connatural to the human body for the intaking of food has been lost and the patient or those responsible for him or her may well judge that the expense of physical discomfort is out of all proportion to the benefits in continuing the procedure.

WHO Meeting Stresses Role of Traditional Health Practitioners

New Delhi, 12 February : The need to mobilize and involve traditional health practitioners in primary health care programmes was stressed at a recently concluded consultation meeting organized by the WHO South-East Asia Regional Office.

Well accepted by the communities they serve, the Traditional Health Practitioners (THPs) with support from the Ministries of Health and health professionals, could add greatly to the momentum of primary health care (PHC) and accelerate the achievement of the goal of health for all.

Among other things, the consultation urged that governments should promote traditional health practitioners as important providers of primary health care, especially in the rural areas and to that end arrange their recognition, training and utilization through appropriate supportive legislation.

It was also recommended that each country should develop a registry for traditional health practitioners and traditional birth attendants. This would serve as an important first step in obtaining information upon which to develop policy and take action.

The consultation recommended that necessary support should be made available for effective public education and information campaigns, and for the establishment of clinics, pharmacies and training facilities for traditional practitioners. The need for multi-disciplinary, action-oriented research was also stressed.

The consultation emphasized that an essential prerequisite for collaboration between practitioners of the traditional and modern health systems is understanding of and mutual respect for each other's system.

Reiterating the vital role of traditional health practitioners, the consultation urged WHO to support Member States in mobilizing and utilizing various categories of THPs with necessary training for PHC. This would help them to participate more effectively in the implementation of national strategies for achieving the Health for All objective.

St. Joseph's Leprosy Hospital, Tuticorin: Anti-Leprosy Month Celebrations

This year the anti leprosy month celebrations began from January 10th onwards till February 11th closing with a public meeting.

Intensive survey and Health education programme were conducted at 4 villages belonging to Tuticorin subcentre. They were Mullakadu, Savariarpuram, Pottalkadu and Muthiapuram, which has become urban area due to the existence of Spic Nagar. Hence the second and third surveys were left out, as in other places of our central area. Most of the people in these area are immigrants. However regular clinics are being conducted every month for the already known cases of leprosy patients and for those who come otherwise for treatment.

Total number of persons enumerated at the above four villages during the antileprosy drive were 11,147

Total number of personal examined for leprosy lesions were	5,591
Total number of leprosy patients detected were :	
Old cases	31
New cases	13
Total	44

Health education programmes were conducted side by side during the survey. Talks were given to patients, their families and to the public in groups. About 2000 leaflets were distributed. All these were done by our staff in groups with the help of the volunteers from Spic Nagar Lion's Club.

Essay competitions were held for high school students, of our central area. A total number of fifty two students took part. The attempt was good on the whole and fourteen students were given prizes. Elocution competitions were conducted for school teachers. It was held in three different schools to facilitate the teachers to gather in the nearby school. The teachers spoke during a small meeting, in the presence of other teaching staff, students and our staff. The total number of teachers who took part were fourteen.

Health education programme was conducted by our Para Medical workers in groups of four to six in five villages of our area getting the involvement of the village administrative officer and the important persons of the villages. The programme was as follows :-

Distribution of leaflets on leprosy	745
Unregistered leprosy patients contacted	55
Absentees contacted	123
New leprosy patients detected	2

Talks were given to the public, creating an awareness on the truth about leprosy.

On the 30th of January 2 slides on leprosy were projected in 14 cinema theatres of Tuticorin and our central areas. They would be screened for 2 - 3 months.

A public meeting was held at Muthiapuram on the 11th February with the help of the Spic Nagar Lion's Club members. The Chief Guest was Dr. V. Thyagarajan, the new D.M.O. of the District Head Quarters Hospital, Tuticorin and presided over by Mr. R. Radhakrishnan, President of the Lion's Club Spic Nagar. Rev. Fr. Tiburtius welcomed the gathering followed by speeches by the president and the Chief Guest. Dr. S. Ramesh our Medical Officer gave an insight to the public about the disease. Prizes were distributed to the winners of the essay and elocution competitions. There was a great crowd as the site of the meeting was at the by pass of the main road. The meeting ended with the screening of the films.

1. "leprosy not a curse".
2. "leprosy a misunderstood disease" and
3. "leprosy control and rehabilitation".

Spirituality

(The following selections are from the 1984 statement of the Association of Major Religious Superiors of Indonesia. In Indonesia this group is known as MASRI.)

At our 4th Inter-religious Congress in 1978 we said: "In our relations with other people, we try to reach a relationship through mutual dialogue, to build up a family relationship, to foster a prudent intimacy with families, to develop solidarity and mutual collaboration with the surrounding society, particularly with the common people, the destitute and the oppressed."

We have since tried and will continue to try to make an effort to live a simple life, such as most Indonesian people do. Would that the religious were ready to work without expecting any reward, to serve voluntarily and honestly all people, particularly the oppressed and the desolate and to foster a spontaneous contact with the poor who are forgotten. Our involvement with the poor will manifest itself by the choice of religious life-style, which strives for solidarity with the society of the poor primarily.

From our experiences and endeavours up to now, it has become more and more evident, that religious life, as an expression of divine love, is being accomplished if we are willing not only to give, but also to receive. We should be willing not only to impart or to apply the riches of our lives, but also to receive sincerely the riches of those we serve. Experience indicates that we not only enrich our neighbours, but that we in turn are also enriched by them. Thus we not only share our riches with the poor and needy, but from them we also receive spiritual riches, such as "simple" faith in God, willingness to depend on others, openness, simplicity, sincerity, friendliness, endurance and perseverance in suffering.

The nearness with one's neighbour, especially the poor, obviously calls for a nearness of heart too. For our part it means a sensitiveness and attention to their lives and needs, both those expressed and those kept silent. From the experience of living close by the poor, valuable spiritual riches have been discovered : not only have we become friends and a life-support of the poor, but they too have become the strength and support for our life and vocation. We therefore have to be more fully convinced that all the more we serve the poor and destitute, so much the more will we be served and enriched by God through them.

Furthermore, on the basis of these experiences, it was also discovered as necessary to make constant spiritual discernment, so that our involvement with the poor becomes the permanent expression of God's redeeming involvement, the expression of God's love, universal but at the same time preferential. Thus the involvement with the poor is not a class-struggle, but becomes a part of all God's work which changes the world and all its structures. If this is the case, then our spiritual discernment has a truly social character. This presupposes the conviction that transformation of life and its entire social structure, in the discerning process as well as in its results, can only be achieved by moving together, in the spirit of collegiality and cooperation.

It is therefore evident that our efforts to transform the world through the preferential option for the poor, demand united action in the Church, among religious and their congregations, among laity and hierarchy, and of all people of good will. This unity of action means that we all together try to secure the common goal, the promotion of justice. This also means that we, with all our energy, spiritual sources and various works, strive for the promotion of justice, especially with the poor. This struggle for the promotion of justice and our preferential option for the poor, under the guidance of the Church, constitutes the integral expression of our faith.

In conclusion, these new attitudes, which generate new actions in service to the poor, will not materialize, if we, for our part, are not willing to change ourselves, or refuse to form new patterns of living our religious life and service.

It is this challenge that urges all of us together with utmost necessity.

Courtesy : 'Info. on Human Development'