SELF HELP IN FAMILY HEALTH

PRIYANI E. SOYSA
Director General
NARESA

The undergraduate is trained to view the family as a unit in practising medicine in a community.

The family shares two main aspects that are our concern *viz.* their heredity and their environment. It follows therefore that family health will be expressed in respect of these.

Heredity in short will be in relation to the common diseases such as asthma, diabetes and high blood pressure. In these heritable disorders, environment plays a great role such as the housing aspects in asthma, diet in asthma, diabetes and hypertension.

A stressful home environment can also precipitate mental disease such as manic depression.

In a cultural background such as in Sri Lanka, horoscopes and astrologers feature in arranging marriages. But quite unknown to many of our people, heredity plays a major role in the incidence of common congenital malformations such as hare-lips and cleft palates, club foot, gastrointestinal problems such as Hirschsprun's disease causing constipation, imperforate or closed anus, sterosis of the exit from the stomach called pyloric sterosis presenting with vomiting.

These facts of disease within a family should be understood to prevent them whenever possible, as occurrence of such conditions could hinder the mental, social and economic stability of a family.

Less common heredofamilial disorders occur with cousin marriages, some biochemical disorders leading to mental retardation, a type of anaemia called Thalassaemia seen very much in the North Western and North Central Provinces and many other rare disorders.

Inheritance of a dominant type is much rarer, one being dwarfism such as individuals seen performing in circuses.

These facts of disease within a family should be understood to prevent them whenever possible, as occurrence of such conditions could hinder the mental, social and economic stability of a family.

The environmental background of a family relates to infections which the family could share. The common childhood infectious diseases are now preventable by immunisation. These have not only eased the lives of families as regard to the infections themselves, but also the sequelae of disability they entailed.



The common childhood infections diseases are preventable by immunisation.

However, diseases like dysentery, hepatitis and typhoid are still common in Sri Lankan homes. Quite often, two children suffering from a diarrhoea with blood and mucus are brought to a doctor. Some of these are not from poor homes. Consumption of fish and meat from so called supermarkets with inadequate cold storage facilities accounts for a number of Shigella diarrhoea.

Hepatitis and typhoid are associated with impure drinking water and contaminated milk and milk products and eggs. Salmonella from eggs has caused epidemic diarrhoea in UK and America. Recent composition of poultry food has changed the bacterial flora inside the egg making half cooked eggs unsafe.

There has to be public awareness of food safety and the need to boil water to prevent these infections. Once infection has occurred in the home, a modified type of barrier nursing, even in a modest background, must be enforced. The use of disinfectants may not be always possible but the use of separate utensils for the affected and simple hand washing are essential.

In looking after a family, the individual members are certainly looked after. Doctors in training are taught to be mindful of cardiac and other disorders and problems of cancer in the older members of the family. Psychiatric disorders do not go unheeded. Occupational hazards have to be taken note of.

The nutrition of the whole family is taken count of. Dietary surveys, usually a 72 hour recall, is done. In actual fact, a visit to the home to counter check available food would need to be done in low-income groups. In a country where approximately 40% of households consume less than their required calories, it is essential to increase awareness of low cost calorie rich food items. It is said that if the calorie requirement is satisfied, then usually the protein content is satisfied. A modest family can use a combination of cereal and legumes to equate the value of vegetable protein to animal protein. If mixed in the proportion of 1:2/3, the value of protein from this mixture can approximate animal protein. Our staple rice is not merely a carbohydrate. Rice contains valuable protein, the only essential amino acid missing is lysine. This comes from legumes. Rice with any type of dhall can therefore suffice when money is short.

Most diets thus composed would include vitamins. In Sri Lanka, vitamin A can be obtained from yellow and green fruits, vegetables and leaves.

Iodised salt should be universally available in a country where goitre is endemic in the monsoon fed areas.

Iron in the diet needs attention where most women have anaemia. Besides this dire effect at one end of the spectrum, iron is necessary for optimum body and brain function.



Farthers' support for the health care

In Sri Lanka where most of the vital health indicators are turning satisfactory, nutritional status of the general community is far from a desirable level. In a family, the most vulnerable members are the women and this is why Maternal and Child Health Centres look after these most vulnerable groups.

Poor maternal nutrition must be highlighted. Little interest has been focused on the woman during her lifespan - from birth to beyond menopause. One reason for this negative aspect as compared to men, is loss during delivery and menstuation with the added requirement of pregnancy. Men do not suffer these losses. Further, when food is scarce in the home, it is the breadwinner who gets the giant share to enable him to work and earn the more. There is little to share with unwilling preschool siblings and the tougher school children, specially the adolescents get more than a fair share. In Sri Lanka, the nutritional status is adjusted at University age, when weight for height corrects itself, the result being short and fat teenagers.

Family health must necessarily emphasise family planning. A small family essentially has conserved resources in all aspects. It is not merely the economics of the situation, but mostly the health of the mother, the birth weights of her offspring, their nutrition and general well being.

Let us now turn to the approach for Family Health care. The new approach is specially for those who have never been reached because problems of health care system is inaccessible. All countries are rich in human potential and this wealth of resources can be maximised. The will and way to achieve this success lies in the people themselves.

The role of the mother as the first provider of care is often forgotten. This importance must be reiterated in situations where health care facilities already available are not utilised because of travel costs and unawareness of these resources. Where the child's health is concerned, mother's implicit interest in her child's welfare is obvious. All mothers could benefit from better understanding of family health as has been focused on in this contribution towards family health. Experience gathered over the years demonstrates mother's



avidity for such knowledge. This knowledge is sometimes available in the school years. A doubt is expressed because the feed-back to us practitioners is that this education has not been effective. It certainly is addressed only to a section of the school population without a stress on evaluation of that knowledge.

Whilst focusing on the role of the mother, one is not adding to her burdens. Responsibility is shared between the parents. Fathers of this new generation are willing partners to more family responsibilities. They have been awakened to his not only because of the fact that more mothers are working, but also due to the fact that families are now nuclear and extended family support is not available. Thus, men's support must be mustered early - at an impressionable age during the school years. Behaviour can be changed at that age. But this education has to be done in an imaginative fashion.

The health science curriculum in school should be on a priority basis without overload on the less important health aspects. Interest could be diverted unfavourably when the subject content is too vast. Year after year, the same areas should not be covered.

It is time to think of another aspect, namely paternity leave to consolidate the concept of the family unit. At least two weeks leave should be given for the first born's delivery, not only for paternal support for breast feeding, but to stimulate shared responsibility for the family.

The health science curriculum in school should be on a priority basis without overload on the less important health aspects. Interest could be diverted unfavourably when the subject content is too vast. Year after year, the same areas should not be covered.

Another important aspect is decision making in respect of health care. Here again, it is a major point to score in achieving good family health if the mother has the father's support to unify the choice of health care.

Finally, positive efforts must be expended to improve the status of public health awareness. The steps taken thus far have been too diluted over mass media. Priority are as must be identified for educative programmes. These must go out from authoritative sources but in simple understandable language encompassing family health.

There is much to gain by revamping, ways and means of improving the health families by rethinking future directions. Broad based health education aimed at families for self-support is suggested.



VIDU 16-182-6

YOUR OWN GROWTH

PRAMILLA SENANAYAKE
Assistant Secretary General
International Planned Parenthood Federation
Regent's College
U.K.

A new born baby may look defenceless but in fact it comes well equipped to cope with the demands of this new world from the moment it emerges.

The Living Cell

Every living thing on earth whether plant or animal is made up of cells from the tiniest insect to the giant Banyan tree. Some life forms like protozoans and bacteria consist of only one cell, while the human body is made up of billions of cells. But each human being too begins life as a single cell: the fertilized egg in the womb. From the fertilized egg implanted in the womb human life takes us through many rich and rewarding phases.

A new life begins

At one month the fertilized ovum has become a rapidly growing embryo. Only half a centimetre long, it now has a recognisable head and tail and the rudimentary heart is well developed. The embryo is attached to the mother's body by the umbilical cord. Blood, oxygen and nutrients pass from the mother to embryo, while at the same time its waste products are removed.

After six weeks we can distinguish the limb buds, short arms and legs.

By two months the embryo is

Human Foetus





recognisably human will all its fingers and toes. Only two and a half centimetres long it is now called a foetus. By the beginning of the third month the foetus can move about freely in the surrounding fluid. Muscles and nerves have developed enough to respond to bright light. All the body systems are present: it is obvious from the external sex organs whether it is a boy or girl. Over the next month the foetus will grow to nearly twelve and a half centimetres in length.

The five month foetus opens its eyes, and it kicks and movements can be felt clearly by the mother. With a stethoscope, the rapid heartbeat can be heard. The mother is now visibly pregnant. Although all the organs are present the foetus in not yet able to survive apart from its mother.

By the seventh month the foetus is fully formed in every detail, including eye lashes and finger- and toe-nails. If the foetus is born now, it will be very small weighing around 1000 grams and 30 centimetres long - but it may survive in an intensive care unit in a specialized hospital.

During the last two months of pregnancy, the foetus trebles in size while organs like the brain and lungs develop fully. At nine months the foetus is very cramped inside the mother's body. The baby is now said to be at term and is ready to lead an independent life. As soon as the baby is born the umbilical cord that has kept it alive for nine months stops transporting blood from the mother, and the infant embarks on an independent existence.

The infant

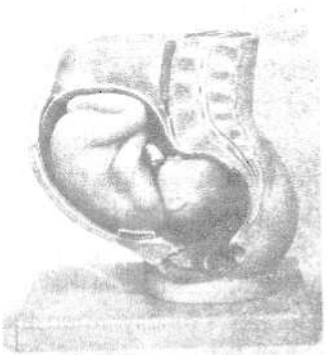
A new born baby may look defenceless but in fact it comes well equipped to cope with the demands of this new world from the moment it emerges.

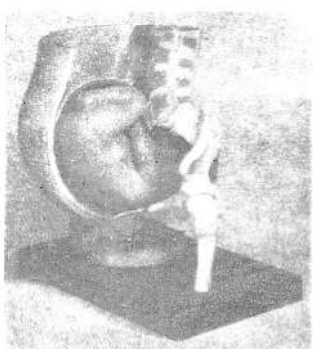
Breastfeeding is important for the new born, it provides the right balance of nutrients, and also provides immunity against infection. It also provides bonding between mother and infant. The newborn infant spends most of its

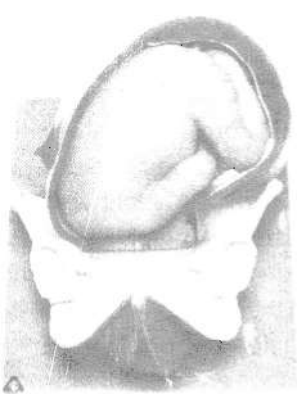
Human Birth

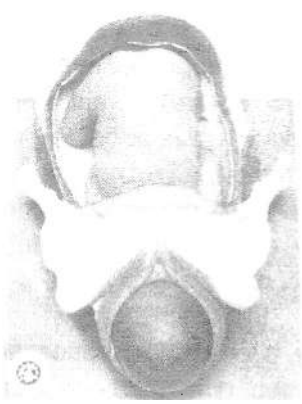


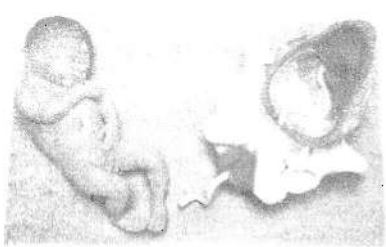
Embryo











Breastfeeding is impor tant for the new born, it provides the right balance of nutrients, and also provides immunity against infection. It also provides bonding between mother and infant. The newborn infant spends most of its time sleeping. It seems helpless but it is already learning to focus its eyes and to communicate by crying.

time sleeping. It seems helpless but it is already learning to focus its eyes and to communicate by crying.

The six month old infant can sit by itself and use its hands to explore, sounds like music attract its attention.

At ten months a baby recognises a growing number of faces, limbs and muscles develop and become co-ordinated and the baby starts to crawl.

At one year the baby picks up objects with thumb and finger and takes its first steps. The child of two walks, talks,feeds itself and learns to play with others.

The Adolescent

Puberty is the time when boys and girls develop sexual maturity to reproduce - to become parents. Changes in hormones, the body's chemical messenger causes the external sexual characteristics to develop.
Girls begin to mature around the age of 11 about two years earlier than boys. They grow several centimetres. Their bodies become rounded at the hips, and breasts swell as layers of fat develop under the skin; pubic hairs appear; and they start to menstruate. Boys grow suddenly after the age of 13 . Their voices break and they begin to produce semen. In a few short years young people pass from childhood to adulthood physically: emotional development usually occurs later on.

In traditional cultures puberty for both sexes mean passing f rom infantile to adult society. Often there is a ceremony, which may last a few hours to a few months. The initiation can include gruelling tests of physical endurance to mark the initiation. In some communities during this time, the young people may be taken away from their homes and taught the laws and religious beliefs that bind each society. Finally when they rejoin their families they will have the same burdens and responsibilities, which include marriage and child bearing. The demands made on young people in the Sri Lankan society are different. They will continue to live at home - no longer children - but not yet full members of a grown up world. Puberty comes late and adulthood follows quickly in traditional societies. In industrialized nations there is a long adolescence an in between time tha t can last for more than ten years. Many opposing forces that are at work during these years - forces that are often strong enough to make life a perpetual battle for adolescents and adults alike. Rapid change in hormones during adolescents produce strong emotions which are somehow difficult to cope with: passionate enthusiasm and hatred and above all the strange new feelings which accompany the dawn of sexuality.

As adolescents gain in physical maturity and increase their intellectual capabilities, they must struggle for the emotional maturity to go with them. They need to establish their independence - to make their own judgments and their own mistakes. They often choose a life style directly contrary to their parents values in order to make their voices heard. Of all the animal species on earth human beings have the longest period of early development: human young are helpless at birth: take about 13 years to reach sexual maturity; continue to grow until they are in their third decade; and have an infinite capacity for increasing their reasoning powers.

The human being

Man belongs to the class of mammals and is descended like all mammals from a tiny shrew-like animal that first appeared on earth about 200 million years ago. As time passed mammals developed into a wide variety of animals ranging from the tiny field mouse to the giant whale. After going through many stages and transitions mod-

ern man, homo sapiens sapiens, finally evolved and since his appearance on earth has come to be the dominant animal on it.

Only the first quarter of the human life span is taken up with the process of physical growth. But that is only one aspect of human development. Intellectual and psychological growth are as important a part of the mature individual as is a well developed body.

The human body

The human body is a complex organism made up of more than fifty thousand million microscopic cells. With its superior structure and mechanisms (including a massive forebrain) it gives us a far wider repertoire of skills and activities than any other creature on earth. It is very difficult to imagine what the cell - the basic building block of all living things - is really like, harder still to picture what goes on inside it. Most cells are very small - far too small to be seen with the naked eye. The largest of human cells, the egg or ovum is only pinpoint in size.

In the human body some 300 million body cells die each minute, but these are soon replaced when nearby cell reproduce by the process know as mitosis.

It is only in the laboratory, using powerful microscopes, that research scientists have been able to study the minute structures of the living cell and to watch the busy goings-on within its walls. The cell is a place of great activity, like a miniature factory working 24 hours a day. Its "business" is concerned with growth, repair and reproduction.

All living things must renew themselves continuously. They do this by replacing worn out parts. In the human body some 300 million body cells die each minute, but these are soon replaced when nearby cell reproduce by the process know as mitosis. In childhood the body produces cells so rapidly that it actually grows in size; at maturity mitosis slows down. Not all body cells have the same life span: some cells survive only a few weeks, while others live for many years. Whether we are awake or asleep our body system remains active, carrying out all the routine functions which are essential to life. Expanding and contracting like a pair of bellows, the lungs of an adult human being process around 13,000 litres of air a day. The kidneys which together weigh only 300 grams cleanse the impurities from some 1500 litres of blood in the course of one day. Most tireless of all, it often seems is the heart. A powerful muscle roughly the size of its owner's fist, it pumps 12,000 litres of blood a day. More than 200 individual bones and some 650 voluntary or skeletal muscles combine to give the human body its characteristic shape and tone. Linked by strong connecting tissue-cartilage tendons and ligaments-they work together to allow an infinite range of movement from every day walking, sitting and standing to the graceful movements of a ballet dancer, or the super charged achievements of an athlete or manual worker.

After 20 years or so of growth and development the single fertilized egg has become a fully-formed adult. Even beyond this time, however certain glands as well as the nervous system continue to mature slowly.

In industrialised societies the average height of a women is 1.6 metres, for a man 1.77 metres, where nutrition and health services are not as high people do not grow as tall. Average body weight is around 54 kilograms for women and 75 kilograms for men. We all know what individuals of different sizes weigh, but what is more fascinating is to know what proportion each part of the body contributes to its overall weight. We see comparative figures based on a man of average size weighing around 73 Kgm.

The human life span in developed nations is now over 70 years due to improved living conditions and medical care. Women usually live longer than men. Although we often complain that life is too short human beings are almost the longest lived animals on earth. Only the giant tortoise at 150 years exceeds the human span. In contrast the elephant has a life span of 60 years, lion 30 years, dog 20 years, rabbit 12 years and a mosquito 1 day. Healthy development,

though among the most critical factors, is but one component of youth. The health of youth rests on a foundation of a well nourished and nurtured childhood, relatively free of serious and debilitating infections and illnesses.

Looking after your body

The normal physical growth and development of adolescence may be adversely affected by inadequate diet, untimely or inappropriate physical stress on the growing body. Diet plays an important part in maintaining good health. Junk food such as sweets, ice cream, Coca cola and chips do not contain the necessary flow of nourishing food which are required for maintaining the biological system of body structure, cell resistance and repair. The well known body building blocks are carbohydrates, protein and fats and wide range of vital substances such as vitamin and mineral elements, fibre and water.

Exercise also keeps the body fit. It makes your heart and lung muscle stronger. There are many things you can do to look after your health; visiting a dentist regularly ensures your teeth and gums are healthy. Have an optician check your eyes. Make sure you have all the necessary vaccinations against preventable diseases like tuberculosis, whooping cough, tetanus, polio.

A caring and stable home environment that encourages gradually increasing independence and sets appropriate limits will build up self esteem in the adolescent and lead to health enhancing achievements in school, at work, at sports and in new relationships. The combination of instability in the family with excessive negative pressures in the environment is more likely to lead to health damaging behaviour such as the use and abuse of tobacco, alcohol and other drugs, poor eating and oral hygiene habits, excessive risk taking on the road, at work, at home and in leisure activities, intentional violence to oneself or others and mental breakdown.

The world's population is growing by over 90 million a year and this rate of growth will continue at least till the end of this century. Rapid population growth is due to many factors,for example rapid fall in death rates and a less marked fall in birth rates.

Human numbers

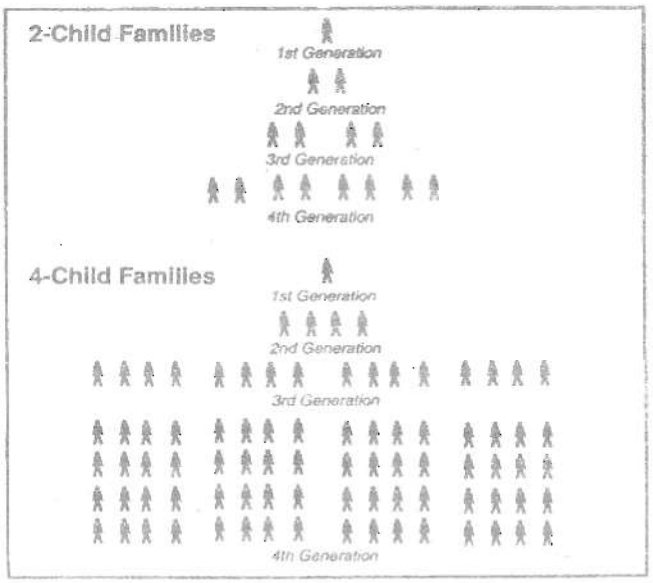
While our own bodies grow and develop the human population is also on the increase. It took 1830 years for the world's population to reach 1 billion. It then took 100 years for the population to reach 2 billion (by 1930) by 1960, 30 years later the 3rd billion was reached. 15 years later in 1975 the population had grown to 4 billion, 12 years later in 1987 the world's population was 5 billion and it is predicted that by 1998 the world's population will reach 6 billion. In 1995 there will, according to the World Bank, be 512 million young people aged 15-19,262 million boys and 250 million girls, 426 million of them (83 percent) will be living in developing countries.

The world's population is growing by over 90 million a year and this rate of growth will continue at least till the end of this century. Rapid population growth is due to many factors,for example rapid fall in death rates and a less marked fall in birth rates.

Consider the alternative consequences of a couple's fertility. If a couple had four children and these children and their own children in turn each had four children the couple would have 64 great grand children (4x4x4 = 64). If instead, this couple had only two children, and they and their children each had two children, the couple would only have 8 great grand children (2x2x2 = 8). Even small fertility differences translate into large differences within a few decades. Like compound interest applied to financial savings, high fertility rates produce ever-growing future populations.

Bigger Families Faster Population Growth

For Generation of 2-Child and 4 Child Families

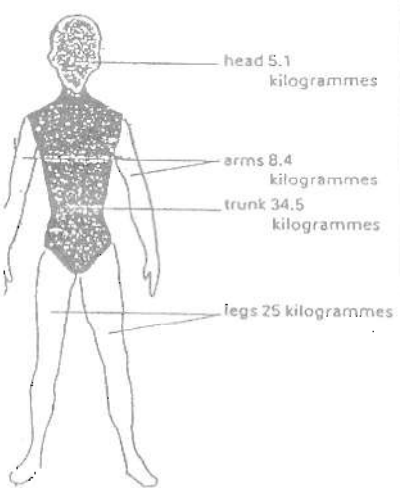


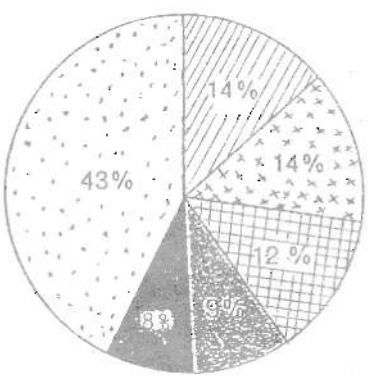
And what of the future ? Each day the world's population increases by approximately 250,000 people, and each of these people need a portion of the earth's resources for food, shelter, energy and water. In just 31 years, by the year 2025, human numbers may be 50% more than they are today- the largest population growth ever seen in so short a time. By the end of this decade, more than half of the developing countries, may be unable to feed their own population from their own lands. Nearly half of the world's people will lack sufficient fuelwood. Within three decades carbon dioxide emissions from energy use in developing countries could triple. Within about four decades readily accessible supplies of oil will be exhausted. Global warming could raise the oceans by one metre, flooding coasts and displacing millions.

We need to take care of our own growth and development, so we will become more healthy and productive adults; similarly the growth of the world's population should be taken care of so that the world will be a better place for all the youth of today and the youth of the generations to come.

WEIGHTS AND MEASURES

We all know roughly what people of different sizes weigh, but what is more fascinating is to know what proportion each part of the body contributes to its overall weight. Here (below and at right) we see comparative figures based on a man of average size, weighing around 73 kilogrammes.





muscles 31.4 kilogrammes

bones 10.2 kilogrammes

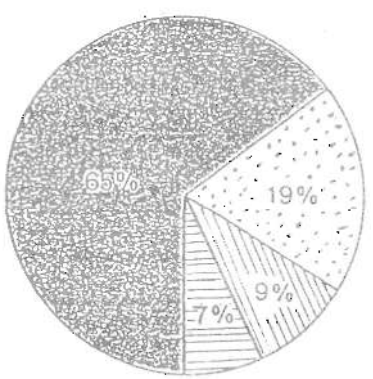
fat 10.2 kilogrammes

internal organs 8.7 kilogrammes

connective tissue 6.6 kilogrammes

blood 5.9 kilogrammes

A percentage breakdown of the major chemical elements of the human body gives us the following comparisons:



oxygen 47.5 kilogrammes

carbon 13.5 kilogrammes

hydrogen 6.9 kilogrammes

other elements 5.1 kilogrammes

From these calculations we can see immediately that muscle – the raw material of movement – is by far the most abundant body tissue, accounting for almost a third of our total bulk. Life-giving oxygen is the dominant element.

VIDU 16-182-12

IODINE DEFICIENCY

- AN IMPORTANT NUTRITIONAL PROBLEM IN SRI LANKA

DULITHA N. FERNANDO
Head- Department of Community Medicine
Faculty of Medicine
University of Colombo

Iodine is one of the important mircronutrients in the human, small amounts being required to be provided in the diet as this element cannot be manufactured in the human body. Effects of iodine deficiency and dietary treatment of iodine deficiency has been known since early times, making it the earliest nutritional disease to be recognised.

Iodine metabolism and consequences of deficiency

Iodine required by the human body has to be provided in the diet. About half the iodine in the diet absorbed through the small intestine as inorganic iodide is taken up by the thyroid gland and incorporated into protein (thyroglobulin) to form precursors of the two related types of hormone - triiodothyronine (T3) and tetraiodothyronine (T4). These hormones are released into the blood by the thyroid gland in response to various stimuli controlled by the thyroid stimulating hormone (TSH). The syntheses and availability of the thyroid hormones are reduced in iodine deficiency, hence blood levels of T3 and T4 and of TSH are used for assessment of status of function of the thyroid gland. Effects of deficiency of thyroid hormones have been well described even though mechanisms of action of the hormones remain to be fully worked out. One result of deficient hormone synthesis is the enlargement of the thyroid gland itself, hence the presence of an enlarged thyroid-known as goitre, is the main clinical sign of iodine deficiency.

Increased foetal deaths, stillbirths, increased deaths during infancy and childhood, developmental abnormalities have been found to be associated with iodine deficiency. Deaf mutism has been suggested as an indicator of the severity of disorders due to iodine deficiency.

Thyroid hormones have extensive effects throughout the body. They influence the metabolic rate, protein synthesis, enzyme function, cellular transport and other physiological processes. They have specific effects on growth of children - deficiency causing retarded growth. Throughout life, a normal level of thyroid hormones is needed for active intellectual function; hypothyroidism is associated with apathy. This effect is probably reversible at least in the adult in that when normal thyroid function is restored, mental functions return



to normal. Low thyroid activity at important stages of development causes irreversible brain damage, at its extreme expressed as cretinism and deaf mutism. This may result from vulnerability of the foetus to maternal hypothyroidism, soon after conception. Lesser degrees of brain damage manifest as deafness, mental retardation and lowered intelligent quotient.

In countries where the prevalence of goitre among school children range from 5 - 20%, an effective control programme could be implemented by providing iodized salt with an iodine concentration of 10-25mg/Kg. (or ppm) to the entire population.

Goitre i.e. enlargement of the thyroid gland is considered to be endemic when its prevalence rate exceeds 10% in a given region. The iodine intakes in such areas are generally below 50 mcg/day compared to the recommended intake of 150 - 300 mcg/day. When goitre prevalences are higher than 30%, 5 -10% of the population can have severe and irreversible mental retardation associated with abnormalities of physical development, known as endemic cretinism.

Increased foetal deaths, stillbirths, increased deaths during infancy and childhood, developmental abnormalities have been found to be associated with iodine deficiency. Deaf mutism has been suggested as an indicator of the severity of disorders due to iodine deficiency.

In recent times, much attention has been paid to the damage due to lesser degrees of iodine deficiency. These disorders not only affect the individual, but entire communities. All residents of a community affected by endemic goitre are exposed to sub-optimal levels of thyroid hormones during their development, hence may have serious but subtle effects on the quality of the society at large. It has been reported that motivation, spontaneity, creativity and intelligence may be diminished. Thus, iodine deficiency may lead to a spectrum of subclinical effects which place the children born to a mother on an iodine deficient diet at a developmental disadvantage which undermines their mental and physical growth, thus slowing the progress of the individual and the community.

Causes of iodine deficiency

The commonest cause of iodine deficiency is the inadequate iodine intake due to environmental deficiency of this essential element. This occurs where iodine is leached out and washed away from the soil by heavy rains, specially in the mountainous areas. Substances referred to as goitrogens which interfere with iodine metabolism are present in some of the foods commonly consumed ex. linamerin which is present in cassava. Bacterial contaminants of water, industrial pollutants also have several substances which have goitrogenic and/or anti thyroid effects.

Other forms of malnutrition, specially protein energy malnutrition and vitamin A deficiency

Figure 1: Distribution of Iodine Deficiency Disorders in Developing Countries



Source: ACC/SCN, 1987.

may have secondary effects on iodine nutritional status. Iodine availability to the thyroid gland can be altered due to dietary or other factors socially when iodine intake is marginal and dietary patterns are less varied.

Extent of the problem

Surveys of global occurrence of iodine deficiency estimate that approximately 200 million in developing countries may have this deficiency and another 800 million are "at risk". Areas of iodine deficiency disorders in developing countries are shown in Figure 1.

In community surveys, prevalence of goitre is taken to be an indicator of the problem of iodine deficiency, even though such data may underestimate the full extent of iodine deficiency disorders. The problem of iodine deficiency was first reported in Sri Lanka as early as 1947. The most recent prevalence study carried out in 1987 has shown that iodine deficiency, continues to be an important nutritional deficiency,

Table 1: Prevalence of Goitre among School Children Sri Lanka, 1987 (excluding the districts the districts of the north and east)

Prevalence category	Prevalence rate	Districts
Low	less than 10%	Colombo, Anuradhapura Polonnaruwa, Matale
Moderate	10% - 20%	Galle, Matara, Hambantota Puttalam, Kurunegala, Gampha
High	more than 20%	Kandy, Kegalle, Badulla, Nuwara eliya, Ratnapura, Kalutara, Moneragala

Source: Fernando M.A: and Balasuriya S. (1989). Asia Pacific Journal of PUblic Health Vol. 4 Pg. 6.

affecting some areas of the country. The prevalence of goitre among school children was studied in all districts of Sri Lanka, excluding those of the north and east. The results are summarised in Table 1.

Prevention and Control of iodine deficiency disorders

Iodine deficiency is being considered an impediment to human development, hence the importance of prevention and control of this disorder. Though a major nutritional problem influencing almost all age groups, this deficiency can be successfully and inexpensively prevented and controlled. The most cost effective method has been to increased the intake of iodine in populations by fortification of salt. Another approach that has been used specially in countries where the problem is more severe, is the periodic administration of iodised oil.

In countries where the prevalence of goitre among school children range from 5 - 20%, an effective control programme could be implemented by providing iodized salt with an iodine concentration of 10-25 mg/Kg. (or ppm) to the entire population. The most popular and simplest technique of salt iodisation consists of applying a solution of an iodine compound on salt by a drip or a spray. If the salt is then dried well, is free of impurities and has a slightly alkaline pH, potassium iodide is well suited and will be quite stable.

For a salt fortification programme to be effective, it is necessary that all salt available to the community is iodized. Problems may arise in the production and distribution of salt to the people who are iodine deficient, and in getting people to consume iodized salt. In Sri Lanka, a programme for iodization of salt has been in existence for some years. However, for several reasons related to production, distribution as well as due to problems in the pattern of consumption, it has not been possible to ensure that all salt that is used by the population at risk, is fortified with iodine. Experiences from countries that have successfully implemented such programmes may prove useful in making necessary improvements.

The main hazard of iodization of salt has been the toxic effects reported due to increased activity of the thyroid gland i.e. thyrotoxicosis. Such effects have been reported mainly in adults over the age of 40 years. This is caused by autonomous thyroid function resulting from long standing iodine deficiency. It can be minimized by limiting the use of iodized salt by those over 40 years of age, even though this poses problems with programme implementation.

Since the value of periodic administration of iodized oil by injection was first established in Papua New Guinea, this method has been used in several countries throughout the world. This method is appropriate for areas with high endemicity i.e. with goitre prevalence of more than 30%, specially in isolated village communities in mountainous areas. In a suitable area, the iodized oil is administered to the vulnerable population. A repeat of the injection is required in 3-5 years. The major problems with this programme are: the cost of the injections and the need to have skilled workers to administer the injection periodically. It has been shown that administration of iodized oil by mouth may have an effect, for 1-2 years.

Other possible approaches for prevention of iodine deficiency include: modification of habitual diet consumed in endemic areas, iodine supplementation of foods and water for human consumption, iodine medications to people in endemic areas.

In countries where the prevalence of goitre among school children range from 5 - 20%, an effective control programme could be implemented by providing iodized salt with an iodine concentration of 10-25 mg/Kg. (or ppm) to the entire population.

VIDU16-182-16

HAZARDS IN THE HOME

T. SABARATNAM
Editor
Ceylon Daily News

Sriyawathi fainted when she related the pathetic story of the death of her three-year old son, Manjula Pushpa Kumara. "We live with my sister's family at Wellampitiya" she told the Additional City Coroner Edward Ahangama, "and on February 28, 1994, my brother-in-law who sells curd, boiled milk in a two-feet deep cauldron and kept it inside a room for it to cool. A little while later I heard my son, the eldest of the two children, scream. I ran in and found that he had fallen into the cauldron. I pulled him out. His skin started to peel off. I washed him and took him to Lady Ridgeway Children's Hospital. He died after a week".

On February 4, 1984, the parents took their two -year-old daughter Jayanthi to the Puttalam hospital with a different story. The child had plucked a ball point pen from her father and ran towards the mother. The child fell on her way and the pen had pierced her eye.

A nine-month-old infant died of severe burn at Base Hospital Matara on January 5, 1994. The cradle in which Wijaya Kumara Veaiden was sleeping had caught fire when a bottle lamp fell accidentally. A few weeks earlier, Lakmali, a one-year-old child from Iranawila upset a bottle lamp which stood on stool and set fire to her clothes.

Four children of a family were injured on October 25, last year, when a petromax exploded when the elder boy was inflating it. The children had stood around watching the fun. This happened at Seelapura, Polonnaruwa.

These are only a few cases of child death and injuries I selected when I scanned recent newspapers. No serious study of home accident deaths had been done in Sri Lanka. A new American study places home accidents as the main cause of child death in the United States. It says over 8000 children under 14 years of age die every year due to home accidents and over 50,000 suffer mutilation. Poisoning, falls, drownings, burns, stranglings and traffic accidents are the main causes. An analysis of the newspaper reports in Sri Lanka seem to suggest a similar situation here too. It also shows that children between the ages of nine months and five years are most at risk. Poisonings are mostly accidental and mainly due to the carelessness of the parents and guardians. Parents should realise that children like to taste everything. A mother was cleaning her toilet when the door bell rang.

She went to answer the call and when she returned her 18-month daughter Priyanka had tasted a small amount of caustic soda she had left on the ground. It burnt her tongue and parts of the throat. The child had to hospitalised for six weeks.

Children are inquisitive. That is how they learn. They are not aware of the dangers. Parents should act with caution. If the mother of David had been little cautious the 14-month-old would not have been electrocuted. The little boy used to play with the electric plug. That morning the switch was on when David pushed his tiny figure into the hole.

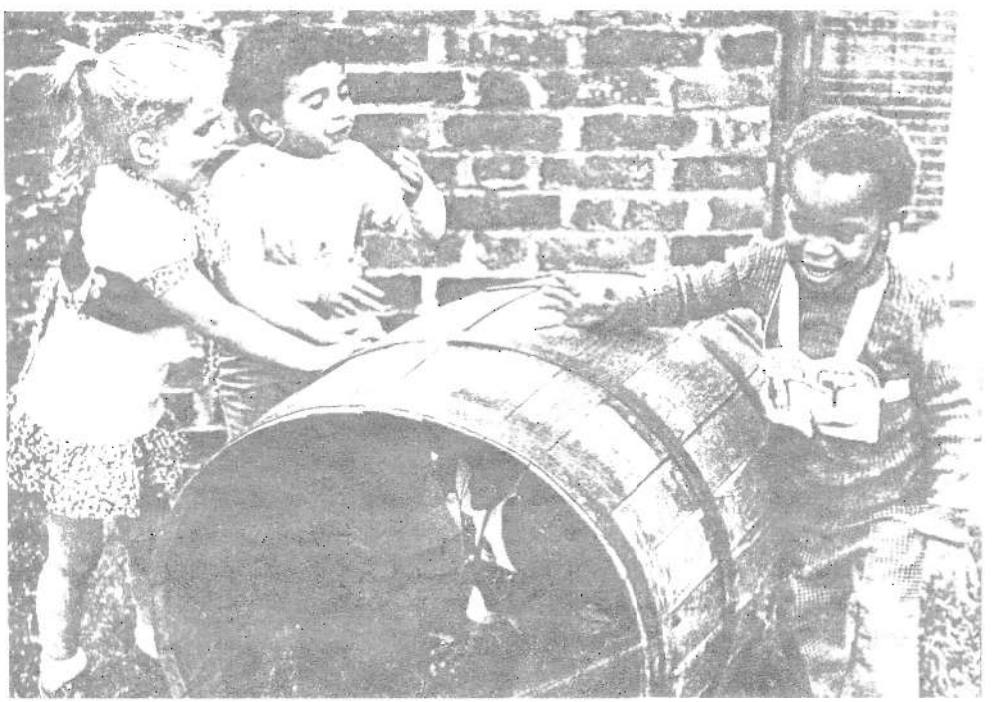
Parents should realise that most of the chemicals they use for cleaning, washing, to control household pests and as cosmetics are harmful to children. Detergents, caustics,furniture polish, disinfectants, soaps, aftershaves, perfumes, cosmetics, moth-balls, medicines, mini-batteries,alcohol, cigarettes, matches, petrol, paints, weed-killers, rat-killers, kerosene, fertilisers and a host of other things we use at home are poisonous.

The golden rules every parent should observe are: Keep them above the reach of children; Keep them under lock. And never throw any used material on the ground. A mother while cooking threw some tamarind seeds into the dustbin. The child picked it up and inserted one of them into a nostril. It would not come out and the parents rushed to the Kalubovila Hospital. The medical staff directed the parents to the Colombo Hospital. A 3-year old child saw the sugar coated pill her grandmother was using. It ate eight of them and had to be rushed to the hospital.

Falls are a major cause for child accidents. In cities children break their hands slipping on the spilled water on the polished floors. In rural areas children break their legs while falling from trees. Seela fell on a granite rock from gowa tree and broke her back and skull. There are also cases of children dying due to coconut falling on them. That happened to six-month old Savithri Priyankani. Her parents were employed. Her grand mother Anne was carrying the child to her home when a coconut fell on the child's head killing her. It happened in Dankotuwa. At Biyagama 3-year-old Janaki was playing in the garden when a coconut fell on her and she died instantly.

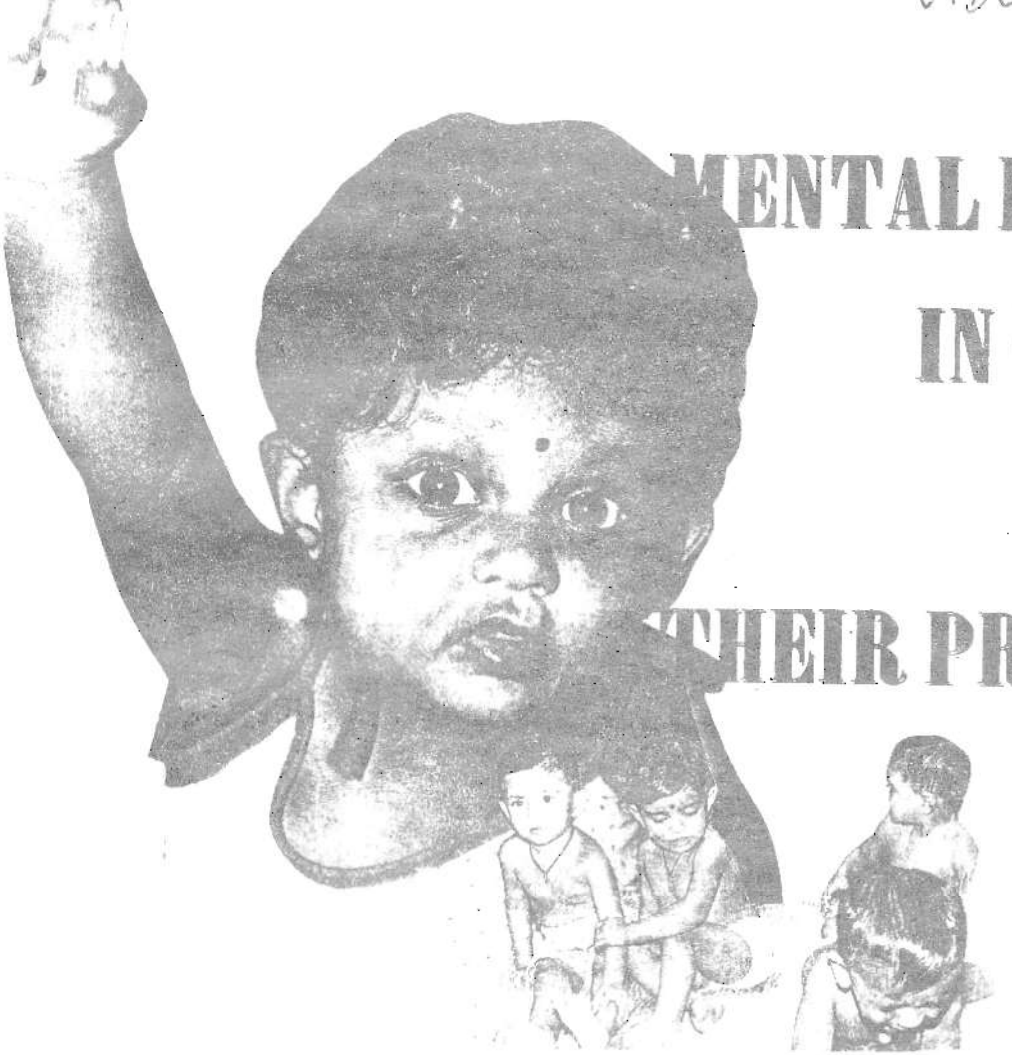
Drowning is also common in Sri Lanka. Two children of Menaka were playing in the garden at their Wellampitiya home on November 30 last year. In the evening the elder returned but not the other one. "I went in search of him", Menaka sobbed, "he had fallen into the unprotected well and was drowned". Drowning in rivers, ponds and tanks is also common.

Children are inquisitive. That is how they learn. They are not aware of the dangers. Parents should act with caution. If the mother of David had been little cautious the 14-month-old would not have been electrocuted. The little boy used to play with the electric plug. That morning the switch was on when David pushed his tiny figure into the hole.



Children are inquisitive

MENTAL ILLNESSES IN CHILDREN AND THEIR PREVENTION



KANCHANA NILANTHI GODAMANNA
Mahamaya Balika Maha Vidyalaya
Kandy

The fact that good health is the paramount wealth that every one, whether, young or old could posses, needs no repetition. The prevention of physical sickness which keeps the entire world awake, has to be placed second since physical health in directly affected by mental illnesses. The mother's womb and her mental condition as well as the people around her prepare for the birth of a child, even before the child is conceived. It is essential that a mother preparing for her first confinement is properly educated in this respect by medical clinics and by health care workers. However, it is a pity that such education is limited to the aspect of protecting physical health.

A flower bud exposed to the sun will mature into a fully grown flower, only after undergoing a mass of changes. Similarly all the experiences absorbed by the child during childhood are permanently deposited in the child's mind. The personality and the intellect of the man of the future evolves in the form of a store-house of memories based on childhood experiences.

Mental illnesses in children evolve as a defence mechanism developed by the child's subconscious to protect the child from external influences which are directed forwards the child. This can be described as one of the measures provided by nature for all beings to their ensure self stability. Mental affliction in a child can be recognized from the confused pattern of behaviour, displayed by a child when a child is deprived of a mentally secure environment, is lacking in self confidence or is separated from loved ones.

A child's mind which is at peace from the day of its birth, is subjected to stress for the first time, with the addition of a younger sibling to the family at which time

parental attention to the older child often becomes less. The insecure environment built by the parents can lead to irregular stammering. bed wetting, severe bouts of anger, being startled and isolation.

Nearly 70% of the nursery age children and children of school admission age in Sri Lanka are subject to school-phobia. The dislike to be separated from parents, the resultant insecure feeling, being unused to the group environment, lack of freedom within the school, exert pressure on a child. With time many students get accustomed to a happy school life. However the situation is aggravated when the child' mind loses its equilibrium.

It indirectly causes physical illness in the child . Intermittent fainting, diarrhoea and vomiting and severe head aches are symptoms shown by children subject to school-phobia.

Such illnesses if not properly treated could comes the child's education to be disrupted.

A steady increase in the number of students who undergo examination phobia at a young age is becoming a new trend. Children who suffer from examination phobia too suffer from the type of physical ailments described above. The pressure exerted by parents for attainment of educated goals and the intense competition generates an unbearable stress with in the child. Physical illnesses are caused by such stress. Children who become victims of examination phobia during childhood, fail to face examinations successfully in the future too. It is a tragedy that the majority of students who become victims of examination phobia are clever students.

Children who grow up in a harsh and unpleasant environment too show symptoms of similar mental illnesses.

What is known in the villages by terms such as "Bhutha Dosha", "Thanikam Dosha", "Pretha Belma" and "Sanniya" are also phenomena caused by a shaky mind. Young girls who are about to attain maturity or who have attained maturity mostly become victim to this condition. Such mental abnormalities are due to undesirable notions such as "Yaksha"s, "Pretha"s and the sprits of the dead which have traditionally been ingrained into the subconscious. When there is emotional imbalance in the mind, such irregular notions gain prominence and the mind becomes distorted. Such mental imbalance is caused by factors such as the concentration of hormones at the time of reaching maturity and by the providing of unwonted security by the parents etc.

Contributing a healthy citizen with a fine personality to the world is an obligation fulfilled by parents towards nature. This is why the physical health of the growing child receives great attention. There is an awareness to a certain extent in the majority of people regarding the prevention of physical illnesses, due to the high rate of literacy, the spread of the mass media, and the proliferation of government and non governmental organizations. However public awareness with regard to mental illness in very low. The shortage of psychiatrists and psychiatric hospitals, the non existence of psychiatric clinics etc. might be at the root of this lack of awareness.

Mental illnesses in children could often be overcome through a course simple behavioral therapy. Treatment after the hypnotizing the patient to awaken the subconsclous is also a widely used system of therapy in psychiatry. Mental illnesses are also treated by the use of electrical and oscillating current.

Years of research have proved that a person's childhood influence his future ethical values and correctness of his decisions. Details of notorious criminals, thieves and gangsters show that their childhood had been fall of unpleasant events. Therefore the development of good qualities during playful childhood is, although indirectly an achievement for the progress of the nation. Therefore I wish to make it known to the world that is time to tell the older generation that protecting the healthy minds of children who are like delicate flower buds is a meritorious deed.

Children who grow up in a harsh and unpleasant environment too show symptoms of similar mental illnesses.

This Article was Received for the Young Writer's Competition, 1993.

ENVIRONMENTAL CAUSED AND DISPOSAL

As recently as a generation ago, the people of this country were not very familiar with plastics. Plastics are a goup of polymers or resins that are synthesized from petroleum or natural gas derivatives. A wide variety of additives are incorporated to impart the desired product characteristics such as colour, felxibility and resistance to microbes, etc.

There are many different types of polymers which fall under the classification of "plastics". These include low and high density polythylene, Polyvinyl chloride or PVC, polystyrene, Poly acrylate and Poly carbamate. In Sri Lanka, Polyvinyl chloride and low density Polytylene have the largest market.

Today we encounter plastics, in one form or another, everywhere. We all know very well how useful plastics have been and will find it difficult to manage without it. We have come to accept them as an integral feature of industrialization and modernization. There is growing, but as yet inadequate, awareness of the environmental ill-effects of plastics. For example, in land fills most plastics are preserved virtually forever. If burnt, plastics release some extremely toxic gases. Most plastic containers cannot be re-used because they are contaminated and not easily cleaned. Similarly, industrial re-cycling (as desired form re-using) has severe constraints.

It is ironic that several of the very properties that have led to the success of plastics, now give rise to environmental concerns. While it is true that resistance to both water and chemical attack is often the characteristic most valued in plastics, this same quality become a serious drawback once the plastics are discarded. Plastic waster remains unchanged idefinitely.

The answer, it may appear, is re-cycling. But what is generally referred to as re-cycling is the manufacture of a lower grade of plastics from waste of a higher grade; often the output cannot be put to the same use as the input. Even if we stretch the term re-cycllling to cover such processes, it may not be technically or economically feasible to re-cycle plastics more that twice or thrice; much of it cannot be re - cycled at all. In any case



& HEALTH HAZARDS BY THE USE OF PLASTICS

DEVANESAN NESIAH
Secretary
Ministry of Environment & Parliamentary Affairs

re-cycling plastics is an environmentally hazardous industry involving the discharge of large quantities of toxic rinse water, effluents and fumes as well as piles of non-re-cyclable, non-degradable plastic waste.

These residues, if put into landfills, add to the bulk of landfills, remain undigested and even obstruct the digestion of biodegradable refuse. This is a rapidly growing problem; surveys have indicated that the amount of plastics in waste streams is rapidly multiplying. Some of these can be seen littered in residential areas and urban centres often holding stagnant water in which mosquitoes breed. Sweeping them away merely transfers the problem from one place to another.

Thankfully Sri Lanka has so far avoided the problems arising out of the import of plastic wastes generated in other countries. US companies, for example, export over 200 million pounds of toxic plastic wastes annually to countries of the South, especially in Asia. Countries such China, India, Indonesia, Malaysia, Pakistan and the Philippines import such wastes. The primary target of US plastic waste importers is Asia. Several years ago there was a similar query from the CEA as to whether it was possible to bring in plastic waste into the country. This request, however, was rejected mainly in view of the lack of proper re-cycling or disposal facilities available in Sri Lanka. But, even if such facilities are available, the environmental costs will be heavy.

Today we encounter plastics, in one form or another, everywhere. We all know very well how useful plastics have been and will find it difficult to manage without it. We have come to accept them as an integral feature of industrialization and modernization. There is growing, but as yet inadequate, awareness of the environmental ill-effects of plastics.

What I have said should not be interpreted to mean that we are totally against all use of plastics. That is not an available option: nor is a total ban desirable. There are many uses for which plastics are superior to any known substitute, even taking into consideration the high environmental costs of using plastics. Some uses of plastics will therefore continue to grow. In addition, new beneficial use of plastics will be found; but we can cut down on many uses of plastics and get back to greater use of traditional substances such as paper, glass, jute and cloth which it had displaced. We can also resort to more re-use of plastic containers as well as more industrial re-cycling of plastic.

(Extract from the Speech made by Dr D. Nesiah at the seminar at Sausiripaya on 10th May, 1993 on the above subjects.)

Reprinted from Soba 1993 May issue.