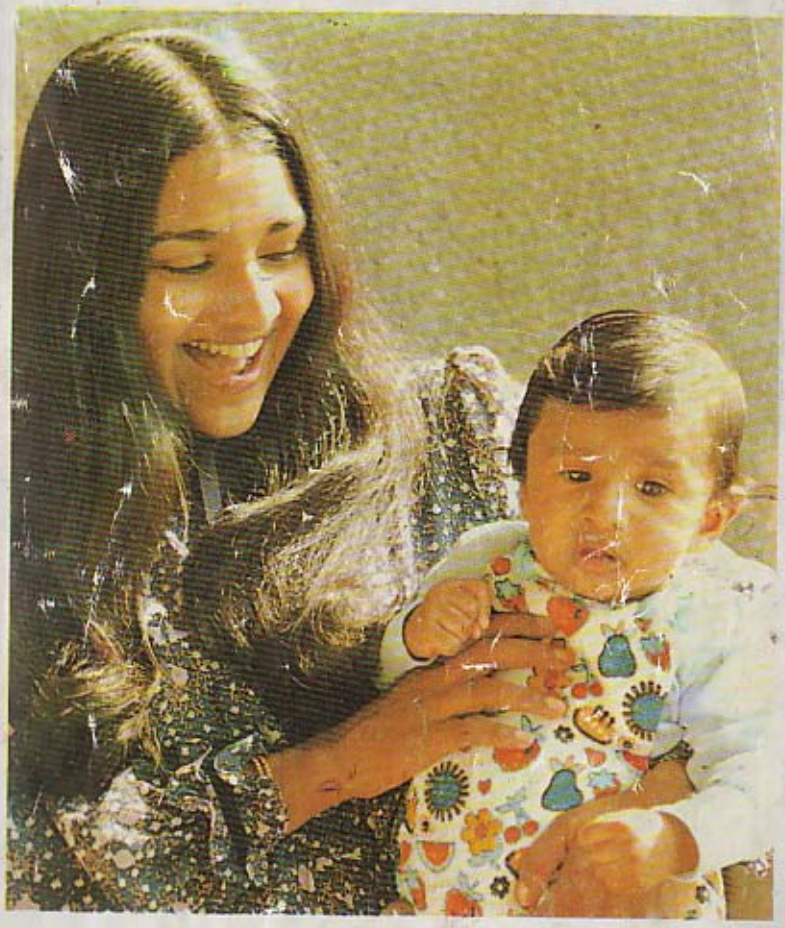
MOTHER, YOUR BABY



by

C. C. de SILVA

and

N. VISVANATHAN

MOTHER, YOUR BABY

(SIXTH EDITION)

REVISED AND ENLARGED

by

C. C. de SILVA

M.D. (Lond.) F.R.C.P. (Lond.) D.Sc. (Hon. Causa)

Emeritus Professor of Paediatrics, University of Colombo and Peradeniya, formerly Visiting Paediatrician, Lady Ridgeway Hospital for Children and Consultant Paediatrician, De Soysa Hospital for Women, Colombo.

and

N. VISVANATHAN

R.N. (Cey.) R.M. (Cey.) S.R.N. (Eng. & Wales)
PAEDIATRIC NURSING (Eng.) D.N.A. (AUSTRALIA)
P,B.N. Cert. (Eng.)

Ward Adm. and Supn. (Cey.) Fellow of College of NSG; NSW (Australia), Nurse rd. Cert. in Family Health & Family Planning (U.S,A.) Formerly Paediatric Nursing Sister De Soysa Maternity Hospital, Colombo

Ex-Matron, Eye Hospital Colombo, Lady Ridgeway Hospital for Children, General Hospital, Colombo and Chief Nursing Officer Medical Services Ministry of Health Sri Lanka

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Dr. C. C. de Silva, 68 Green Path, Colombo 7
or
Mrs. N. Visvanathan, 88, Horton Place, Colombo 7

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PREFACE TO THE SIXTH EDITION

After thirteen years we have decided to revise and enlarge the last edition. We have also revised several other sections in different chapters.

A chapter on Family Planning has been added,

We are indebted to Dr. Benjamin S. David D.C.H. (Eng.) M.D., F.R.C.P. (Edin.) Consultant Paediatrician Lady Ridgeway Hospital for Children and Castle Street Maternity Hospital, Colombo, for having written Chapter VI on "Babies of Low Birth Weight" (old term-premature baby).

INTRODUCTION

Our aim in writing this booklet is to help our literate mothers, both "richer and poorer" to gain some knowledge on the care and management of their infants. The vast majority of illnesses in infancy and childhood is preventable and our hope is that these will be prevented when mothers realise the importance of correct feeding and management of their offspring.

More and more of our babies are now being born in hospitals or maternity homes. It should be the duty of every ward sister or, in a home, the matron or senior midwife, to instruct each mother on the proper care of her child. How often is this done? So much toil and time are spent in the lying-in period, quite rightly. on the care of the mother, We plead for just as much care and trouble to be taken about the infant; so often he is regarded as part of the baggage and sent home with the owner who is as ignorant of the care, as she was before the child was born! By rights every new-born should be referred to the local M.O.H. for further follow-up.

We, therefore, think that the training of the midwife and nurse as regards the care of the new-born and older infant should be re-orientated. It should be the duty of a midwife who has attended on an infant to follow a case through and visit the home, at least at intervals throughout the first year. She should know enough about infant feeding to advise the mother on the correct procedure during this time.

Most mothers are quite ignorant of the necessity for early supplementation of milk with other foods. Most of them, we are afraid, still give milk and only milk till

the infant is one–year–old. The only other foods that are usually given are orange juice, rusks and coriander water. This is one of the main reasons that in the second half of the first and in the second year there is, firstly. either no gain or even a loss in weight and secondly, that nutritional anaemia and other deficiency disorders are so common so early in life.

Our hopes to publish editions of this booklet in Sinhalese and Tamil at an early this date has now been fulfilled and we believe that this would help our country in a small way to solve one of its main problems namely, the unnecessary morbidity and mortality of infancy and, what is now more important, of early childhood. Though infant mortality has been reduced, most dramatically, from over 140 per 1000 live birth to 43 in the short space of approximately twenty years it is still over double the rates in the most advanced countries. The greater problem is the still shockingly high proportion of deaths between the ages of 1 and 5 years. The deaths between 1-5 years of age in Sri Lanka are almost 10 times as high as those in the most advanced countries of the world! Therefore, while we may congratulate the Anti–Malarial Organisation and the Health authorities. on a great job greatly done, we must warn them and the people that this is not the time for complacency and for folding one's arms in quiet contemplation of past successes. More effort and more money must be spent on education. propaganda and health measures for the proper prevention af preventable disease and the time to start is right at the beginning with the birth of a new life or even earlier, during pregnancy.

Finally, we must also warn the mothers that no amount of help and pressure from the authorities will enable them and their children to lead happier and healthier lives unless they exert themselves and do what is necessary for their own benefit.

CHAPTER I

What is expected of the mother?

Every female infant is a potential mother and is the medium through which the race is continued. The care of this mother starts in her own infancy. If she has been born without blemish, i.e., without congenital abnormalities or diseases acquired whilst in the mother's womb, if she is nurtured throughout infancy, childhood and adolescence in a right and proper manner, if she is kept as free from chronic debilitating illnesses like tuberculosis, anaemia, parasitism and malnutrition, if she has a proper amount of physical exercise, mental exertion and cultural interests, and also given tender loving care, she will grow up into a well–integrated individual and be able to breed and care for her own children in a fitting manner.

If on the other hand she is born with a congenital heart or other major abnormality, if she is not fed in infancy and early childhood on a balanced diet with a correct proportion of protective foods such as proteins, fats, vitamins and minerals, if her standards of personal hygiene are so poor that she suffers from recurrent diarrhoeas and parasitic infections, if she lives in an overcrowded slum with no opportunities or facilities for healthy outdoor exercise and recreation, if her schooling is neglected or abandoned due to any reason whatsoever, then she is not a fit and proper person in our opinion to produce and care for an infant. How many poor women in our country still fall into the second category? As long as the majority of our women suffer from one or more of these handicaps, so long will we continue to breed many small, puny, weak infants who even if they survive will be substandard in height, weight, physical strength and mental calibre.

Many females due to poverty and poverty alone cannot help but stay in the latter class. This is a socio–economic matter which is beyond the power of medical or social workers to remedy. There is however, a large and significant number of women with adequate financial means who do not know how to feed themselves or their children, who have no idea that dirt breeds disease,or cleanliness begets health, that pollution of the soil with spit, faeces and urine is an anti–social act, that flies, mosquitoes, bugs and other creepy, crawly things are means of spreading disease, that hands must be washed with soap and water before and after meals and after toilet, that children should be forbidden to pick up things from the floor and eat them, that water must be boiled before consumption etc., etc., etc. These are simple facts of life which need to be taught over and over again to our young boys and girls from their elementary school days. Then perhaps in one generation or two we may see a great change in the pattern of disease and death in this country.

PREGNANCY

Ante-natal Care

As soon as a woman misses her regular monthly period, she should see her doctor or attend an antenatal clinic. The majority of expectant mothers in this country do visit an antenatal clinic but usually not till the 5th–6th month or later, and not more than once or twice during the whole period of gestation. This is too late and too little.

In the USSR and other advanced countries every mother attends an antenatal clinic from the 2nd or 3rd month of pregnancy once a month for the first 6–7 months and then fortnightly during the eighth month and then weekly till the birth of the child. Every working mother should be put only to light work after the 5th–6th month of pregnancy. **Every lactating mother should cease suckling her infant after the 3rd month of her next pregnancy, as it would affect her health.**

EXERCISE

Our estate tea pluckers and rubber tappers should work **only** on level plots and not be allowed to go up hill and down dale several times a day in **the second half of pregnancy.** Mothers of the affluent classes should take some form of physical exercise daily. We recommend breathing exercises, lying down in bed with the legs extended and raising each in turn as high as possible with the knee extended, 8–10 times each time. This should be repeated 2–3 times a day.

Bending and sweeping under the beds, almirahs and tables etc.., is also a very good form of exercise. Walking and swimming (if used to) are estimable.

BATHS

Every pregnant mother should bathe daily, including Tuesdays and Fridays, during her pregnancy.

DRUGS

In the first three to four months of pregnancy **no drugs, injections or immunisations of any sort should be taken by the mother.** If she is a diabetic or gets swollen feed etc. or has headaches, vomiting or other symptoms she should consult her doctor immediately. She should not wait till it is too late. **She should be specially careful about taking any drugs for vomiting of pregnancy.**

BLEEDING

If there is any haemorrhage, even of the slightest degree inform your doctor. You should go to bed and stay there till the bleeding ceases completely, and for a day or to longer.

CARE OF THE BREASTS

The care of the nipples by the mother in the third trimester (7–9th month of pregnancy) is most important. The mother should clean her nipples daily with olive oil or gingelly oil.

This she could do before bathing. If the nipples are retracted she should pull them out with her thumb and forefinger several times a day so that the retraction is corrected. If this is done daily till the baby is born the chances of successful breast feeding are greatly enhanced. (Page 17)

BOWELS

She should regulate her bowels, not by purgatives or laxatives, but by drinking more fluids and eating more fruits, specially papaw and sour plantains.

DIET OF THE MOTHER

The average birth weight of our infants born in hospitals is between 6½–6½lbs. The average of an American, European or Australian newborn lies between 7½-8½lbs. The average of a Japanese or a Chinese baby is also higher than ours, though they are a shorter race than we are. Our mothers are short and the mother's height has much greater influence on the size and weight of her baby than the father's. Our mothers could be made at least 2" taller in the next generation or two, if from infancy they are fed and nurtured in the correct way. What is the correct way? As regards infancy and early childhood, we have detailed our views in the three chapters following the present one.

Every child and adolescent should drink at least a pint of milk a day. This is the optimal quantity. If this is impossible due to economic or other reasons, other protein containing substitutes must be taken. It is necessary for optimal growth that at least ⅓ of the total protein consumed should be in the form of animal protein (this includes, of course, milk). This should be supplied in the form of meat, liver, cheese, fish, dried fish and eggs. If these are beyond the purse of some mothers, then she must take dhal, green and other grams, peas and beans. The cowpea or long beans, (මෙ ඇට) dambala are excellent vegetables for

mothers. Before green gram is given it must first be roasted or soaked in water overnight and the outer covering removed as this may upset the mother's digestion. Once this outer covering is removed, it is an excellent vegetable both for mothers and children.

Every growing child also needs plenty of fruit and green vegetabls in her diet. In this country with abundant fruit throughout the year, we must shout the slogan " A papaw (slice) a day keeps the doctor or the vedamahatmaya away". The papaw in our opinion is the best, most nutritious and relatilvely the cheapest fruit we have. So easy to grow, so cheap to buy, and yet our children in hospitals, homes and schools are seldom given it. Why?

In pregnancy, it is important that the quantity as well as the quality of the food is adequate. This is particularly important in the last three months of preganncy. The gain in weight and length are greatest during this period.

It is the common traditional practice in this country, especially among the Sinhalese, that all expectant mothers should be prevented from taking animal protein especialy during the last three months of pregnancy. This is because such a habit will undoubtedly produce a small infant and thereby an easier delivery. This is true but what is the cost – a weakling, small in size with soft muscles, no fat and no subcutaneous tissue. His powers of resistance against infection are much less than in a normal sized baby. He may possibly have a small stature later. Therefore the percentage of deaths in the first few weeks of life, compared with the deaths in the remainder of the first year of life is very much higher than expected. This can be remedied and the rate brought down to much lower levels if the expectant mother takes an adequate amount of protein with a modicum of animal protein in the last three months of pregnancy.

We would recommend the following minimum diet for a poor urban or rural mother. To those who are blessed with more worldly goods there is no reason why they should not take more milk, meat, fish, or an egg daily. But richer mothers must beware of overeating, particularly of high protein and high fat containing foods. This is certainly not the best for their health.

Food	Quantity per day Divided portions	Calories	Proteins 1gm=1/30oz.
Uncooked rice (parboiled) (1¼ "chundys" per day)	10 ozs.	1000	20 gms.
Meat (without bones, fat or gristle) or fish	¼lb.	180	23
and or dried fish (cuttle)	¼lb.	168	32
Milk (cow)	½ pint (large tumbler)	200	10
Dhal	⅛ lb.	344	21
Green leaves	2 ozs.	20	–
Bread	2 ozs.	134	4
Margarine	1 ozs.	250	–
Coconut milk	2 ozs.	186	1.5
Sugar	1 ozs.	120	–
Fruit, vegetables (ladies fingers, drumstticks,etc.)	1 ozs.	10	1
Potatoes or Sweet potatoes (better)	2 ozs.	50	2
Plantains	2	100	–
	Total	2762	114.5

We would recommend the following diet for a mother.

This diet is adequate, well–balanced and relatively cheap. If milk is unobtainable for any reason, dried fish, egg, beans, dhal, gram or peas should be substituted. Of the green leaves mentioned above, the best is murunga and katuru–murunga.

If we can popularize such a diet for every expectant mother in the three months of pregnancy, we are quite sure that we can save at least one–third of the babies who now die in the first month of life and that is putting it very conservatively. The mother, however, could save some money for her diet if she gave up betel chewing and sugar and other foods which are not nutritious, during pregnancy.

CHEPTER II

BREAST-MILK

Your new born baby depends on you for love, food, warmth and protection. The best food for him is your own breast–milk and any other milk is only second best for the following reasons:–

1. Breast–milk is especially produced for your baby.
2. It is the safest food as it is pure, clean and free from germs, provided you, your hands and clothes are clean.
3. It is the cheapest because it costs nothing, except for the extra cost of a small amount of animal protein, fats and vitamins in the mother's daily diet, during pregnancy and lactation.
4. It is the baby's most natural food.
5. It is at the correct temperature.
6. It is a perfectly balanced food and contains in the most digestable form, the correct quantities of all the elements necessary for the proper growth and development of the baby, especially during the first few months of life.
7. Breast–milk makes the baby healthy nad strong.
8. Breast–milk has anti–infective and growth factors; the immune bodis in it also help your baby in its early struggle for existence.

BREAST-FEEDING

Almost all mothers are capable of breast–feeding their babies. Every mother should consider it her duty to do everything in her power to breast–feed her baby. The will to do so is half the battle won.

Even failure to breast–feed one baby does not mean that the same will occur with subsequent children.

Breast–feeding helps both baby and mother and there are many advantages to both.

Baby-

1. Breast–feeding provides natural immunisation to the baby.
2. Breast–feeding acts as an "intestinal paint" and prevents absorption of bacteria. Artificially fed babies lack this protective effect.
3. Fewer attacks of diarrhoea, vomiting and skin ailments occur in breast–fed babies.
4. Respiratory tract infections, thrush, otitis media and neo–natal septicaemia are less likely to occur in breast–fed babies.
5. Anti–viral substances are also found in breast milk which directly neutralize viruses causing poliomyelitis, dengue fever and herpes simplex.
6. After the baby has emerged from the protection of the intrauterine environment, the immunity gap of the first few months is filled in by the protection afforded by mother's milk.
7. Breast–feeding helps the baby to thrive better and to have good motions, good digestion and to sleep well.
8. Baby is less likely to contract all infections and die during the first year of life.
9. Being constantly thrown into the company of the mother, it creates an increased maternal attachment and also, the baby is more likely to be properly cared for than if looked after by some disinterested person.

Mother

1. Breast–feeding once established, involves less trouble, time and work for the mother as there are no bottles or teats to be cleaned and sterilized, and feeds to be prepared.
2. By keeping the infant in good health, much time, money and worry are saved.
3. Stimulation of the breasts by suckling tends to set up reflex contractions of the uterus, which helps in the involution of the uterus after delivery.
4. Breast–feeeding helps the mother in giving her psychological support to overcome the mental trauma of partus

Fig. 1

The incorrect way to hold a baby while nursing.

and puerperium. As touch is the most sensitive of the five senses in the baby, breast–feeding brings on closer contact between the mother and the infant which is important for the stable, emotional development of the baby, thus providing a happy mother–child relationship.

5. Mother is less likely to get breast cancer.
6. Breast – feeding helps in family planning.

Almost all lactating women who are amenorrhoeic fail to ovulate, unlike lactating women who menstruate. Therefore because of the absence of ovulation in a high percentage of women lactation confers a substantial degree of infertility especially as long as it is associated with infertility.

N. B. Do not depend on advice from relatives and friends, for successful breast–feeding is sometimes not easy. A competent doctor, nurse or a midwife should be consulted in any difficulty.

POINTS TO REMEMBER FOR SUCCESSFUL BREAST FEEDING

(i) The quality of the milk does not vary and is never at fault. Such statements as–"the milk is like water", "the milk does not agree with the baby", The baby gets constipated or vomits with the breast milk", are quite inaccurate. *Be sure that your milk will almost never disagree with your baby.*

(ii) If there is only a little milk during the first 2 or 3 days after the birth of your child, do not be discouraged. The secretion of breast milk is not properly established until the second week, and the infant does not require more milk than the breasts provide during the first few days.

(iii) A good mixed diet with 1½ pints of milk should be taken daily by the mother. Avoid hot curries, aperients, shell fish, crabs and prawns. to prevent any loose stools

and skin rashes in baby. Immature Jak fruit, bitter gourd and rice conjee are believed by the Sinhalese to increase the secretion of milk. Syrup of asparagus as prepared by the late Dr. Emmanuel Roberts has been found successful in some cases.

(iv) The baby's first feed should be given during the first hour after birth. During the first day or two 1–2 minute feeds at each breast are sufficient. These times are gradually increased until the baby is 10 days old. Mothers are given roasted garlic and kitul jaggery to eat during the first 2–3 weeks after delivery. This is believed to prevent abdominal distension in the mother and also in the baby, as garlic is secreted in the breast milk.

(v) **A rigid 3 or 4 hourly schedule is not necessary** The baby should be kept within reach of the mother and on–demand feeding allowed. Each baby has his own time–table but a baby under 3 months does not need more then 6–7 feeds in 24 hours; over that age 5 feeds are sufficient.

A second feed is not necesssray within 2½ hours of a previous one; if however, the latter has been a poor one, then the baby may be fed after 2 hours, if he expresses a desire for another feed. The baby may, however, go on for over 4 hours at other times without a feed.

(vi) A baby should not be awakened from his sleep to be fed during the day, unless it is over 4 hours since his last feed. *If the baby cries at night and is not consoled with water, he must be fed.* After a month or two most infants do not need a night feed. A baby will however, cry for other reasons than hunger, e.g., thirst, discomfort (wet napkins), pain, wish to be

Fig. 2

The correct way to hold a baby during its feed,

carried, fondled or kissed by the mother etc., and these causes must first be excluded before the baby is given a night feed.

(vii) The whole feed at both breasts should not take more than 15 minutes. It must be remembered, that some babies take the feed quicker than others and seem satisfied after 10 minutes. This does not matter as long as the baby does not swallow air and suffer discomfort after his feeds. If he swallows much air he may sometimes make a sucking noise. If this happens he must be removed from the breast for a few seconds and put back again. *Air swallowing is the commonest cause of vomiting in breast-fed infants.* The commonest causes of air swallowing are—

(a) Prolonged sucking (over 15 minutes) at the breast.

(b) Holding the baby in a horizontal position with the head flexed, *i.e.*, bent forward at the neck (Fig. 1).

(viii) After feeding at each breast, put the baby's head over your shoulder by placing one hand under the arm pit, the thumb in front and the four fingers behind and his stomach against your chest and pat him gently on the back with the other hand for about 5 minutes – to break the wind. Fig 3.
After both breasts have been emptied, lay him down in his cot on his right side to prevent him from inhaling any vomit. After 20 minutes or half an hour the baby may be turned on to his left side.

(ix) After the baby has ceased sucking, express all the milk that is left in your breasts and give it to him with a spoon or throw it away. This is very important, as expressing the milk this way helps in the secretion of more milk.

(x) When your ordinary duties are resumed, the breast milk supply tends to be diminished. Avoid betel chewing and smoking during lactation as they may interfere with your appetite.

(xi) Do not worry if the baby takes a small feed at one time as it is balanced by a larger one at another. The early morning feed is the biggest and the after noon one the smallest as a rule.

(xii) Settle yourself and the baby in a comfortable position before commencing breast–feeding. Be half reclining in bed or on a chair.

(xiii) When you hold the baby close to the breast, your nipple should be in his mouth with his nostrils clear of your breasts. His head should be extended, *i.e.,* bent backwards, and not flexed, (Fig 2). If he is being fed at the right breast let your right forearm support his back and neck and your left hand guide the nipple to his mouth. Your right forearm and hand should support the infant's spine and buttocks.

(xiv) When the baby sucks the breast it is normal for the milk to drip from the other breast. Control it with your forearm by pressing on the nipple.

(xv) Orange juice should be given to the baby in the third month, once a day, between two feeds with a spoon rather than from a bottle. Once a baby acquires a taste for the bottle. breast–feeding becomes difficult. *The orange juice should be diluted with boiled cooled water with sugar added to it.* Start with one teaspoonful of pure orange juice and increase by a similar amount once or twice a week till a maximum of 8–10 teaspoonfuls are reached. When oranges cost too much, try tomato, lime, papaw, or nelli juice. Haliborange may be given instead.

Fig 3

The position in which the baby should be held in order to break wind after feeding.

(xvi) If possible breast feed the baby for at least the first six months of life. but if you wish to continue for a longer time you may do so *provided that* you give him some solids as well as soup, fruit, bread or other cereal. Today, infants who are 6 months are supplied with TRIPOSHA at maternal and child health centres.

(xvii) **To continue with breast milk only without the addition of any other food beyond six months is harmful to the infant, as it is insufficient for his growth.**

(xviii) Breast – feeding may be stopped after nine months, and other milk, *e.g.*, cow milk or dried milk substituted unless this is impossible for economic reasons. If circumstances do not permit your buying 1½ bottles of cow milk (unadulterated) daily, or 2 lbs. of dried milk weekly, *then you will be well–advised to continue breast – feeding as long as possible provided your health is good and you are not pregnant again.*

(ix) If some other milk has been orderd by the doctor to be given in addition to the breast milk, *this should be spoon–fed and not bottle–fed,* immediately after the breast milk, especially to very young infants under the age of 4 months, as they tend to get used to the bottle and refuse the breast.

Do not give alternate feeds of breast and artificial milk; it is not good for the baby's digestion or for the continued supply of breast milk. The more often a breast is emptied, the better the flow of milk. If alternate feeds of breast and artificial milk are given the breasts will be emptied only once in 6 or8 hours. This is not frequent enough and consequently the breasts will cease functioning much earlier than otherwise.

(xx) After breast feeding the baby may appear restless and dissatisfied if the breast milk has been insufficient. Due to underfeeding, the baby may lose his body water and have frequent, scanty, loose, green stools containing much mucus. The baby's weight may remain the same or even decrease. It is wise to remember however, that *an infant will cry immediately after a feed for other reasons than underfeeding, e.g.* wind, over–feeding etc. Test feeding may be advised by your doctor to eliminate under feeding .

BREAST FEEDING IN THE FIRST WEEK OF LIFE

If the mother is unable to breast feed her baby owing to depressed or cracked nipples, expressed breast milk may be given.

A baby of 6 lbs. should get approximately the following amount of milk during the first week of life.

2nd day	1/7th of	2½	ozs.	per	lb.	body	weight	= 3	teaspoonfuls, 3 hrly.
3rd day	2/7th	,, 2½	,,	,,	,,	,,	,,	= 6	,, 3 ,,
4th day	3/7th	,, 2½	,,	,,	,,	,,	,,	= 9	,, 3 ,,
5th day	4/7th	,, 2½	,,	,,	,,	,,	,,	= 12	,, 3 ,,
6th day	5/7th	,, 2½	,,	,,	,,	,,	,,	= 15	,, 3 ,,
7th day	6/7th	,, 2½	,,	,,	,,	,,	,,	= 18	,, 3 ,,
8th day	7/7th	,, 2½	,,	,,	,,	,,	,,	= 20	,, 3 ,,

HOW TO INCREASE THE SUPPLY OF BREAST MILK

1. During the last three months of pregnancy try daily to express the secretions of your breasts.

2. After the first 10 days the baby should be fed for 8 minutes at each breast. Sucking by the infant helps to empty the breasts during this period and also promotes the secretion of more milk.

3. After the feed each breast should be emptied completely with the thumb and forefinger. *The more a breast is emptied in this manner the better it will refill and the longer you will be able to breast feed your baby.*

4. Rest as much as possible between feeds.

5. Worry and anxiety should be avoided.

6. A well–balanced nourishing diet *e. g.*, meat, fish, green vegetables, dhal, at least 1–2 glasses of milk or malted milk, and fruits like plantains, papaw or oranges should be taken daily. If you cannot afford to buy this quantity of milk, you can get skimmed milk free from a milk feeding centre.* If meat and fish are beyond your means, dried sprats are a good substitute. Continue taking your normal meals from the first day after delivery.

7. A glass of water should be taken half an hour before nursing the baby. Never feed the baby for more than 10 minutes and less than 5 minutes at each breast. Give both breasts at each feed.

8 Hot and cold sponging of the breasts is very useful. The best time to do this is between two feeds. Sponge both breasts with hot water for about one minute and then with cold water. Repeat 5–10 times.

N.B. It is very necessary that you should wash your hands with plenty of soap and water both before and after handling the baby, to prvent any infection through your hands.

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*Skim Milk can also be bought at some shops in Colombo. 5 level dessertspoonfuls mixed with a tumblerful of warm (not boiling) water plus 2 teaspoonfuls of sugar should be taken at least twiec a day. (The water must be first boiled and then stood to cool).

THE FEEDING OF TWINS

If the twins are of equal weight and strength both should be breast fed in the same way. Feed both babies at the same time, one at the right breast and the other at the left. The legs of each baby should be placed outwards and backwards. At alternate feeds infant should be changed over to the opposite breast, *i. e.*, if at 6 a. m. Sakuntala had the left and Sivakumar the right, at 9 a.m. Sivakumar should have the left and Sakuntala the right and so on.

If one twin is much bigger than the other, then the smaller twin should be fed first at one breast and after he has finished, the other should be started on the other breast.

If the milk is insufficient to feed both children a doctor should be consulted. The signs and symptoms of inadequate feeding are crying and restlessness, loss or lack of gain in weight in two successive weeks, constipation, or frequent, loose, green stools and flatulence. If test feeding is done, underfeeding may be confirmed.

TEST FEEDING

If the baby seems dissatisfied with his feed, test feed him on a proper weighing scale for 24 hours. Weigh the baby before and after each feed with the napkin on. If the napkin is wet after the feed, do not change it until the baby is weighed a second time. If you have no weighing scale at home you may get this done at the nearest maternity and child welfare centre or dispensary. Test feeding helps you to discover if the baby is getting sufficient milk. If it is impractical to do this for 24 hours, even 12 hours, i.e., for 3 feeds, may suffice. Your baby needs $2\frac{1}{2}$ ozs. of milk per pound of body weight per 24 hours after the 1st week of life.

Fig. 4

The correct way to feed twins, at both breasts at the same time.

WATER

If the baby cries between feeds give him boiled, cooled water, about 2 tablespoonfuls at a time. *Do not give him tea, coriander, sugar or glucose water. Coriander acts as a diuretic and makes the baby pass more urine and also sweat more.*

Some indications and contraindications for breast feeding

If the mother has a cold, cough or other respiratory infection, (*e.g.*, "Influenza") a clean handkerchief should be tied over the nose and mouth and the baby nursed, or the milk should be expressed, boiled and given to the baby with a spoon. Remember to wash your hands with soap and water before and after the feed.

When the infant has loose motions or vomiting, **breast** feeding should not be stopped except for 6 or 8 hours **only.** No artificial food (dried milk) should be started except on a doctor's advice. *Breast milk is still the best.* During the period when the breast milk is stopped express the milk four hourly and discard it. The baby should be given plain boiled cooled water during this period. Do not let your breasts get hard and full, for this is harmful. If the mother has tubercu losis, heart disease or diabetes, a doctor's advice should be sought regarding breast feeding. In cases of puerperal and severe infections like typhoid fever, small pox, dysentery, mania etc., breast feeding should be stopped, but breast milk may be expressed, boiled and fed to the baby throug a bottle, if it is impossible for economic or other reasons to purchase an *adequate* quantity of dried or fresh milk.

Where the nipples are flat, large, fissured, sore or inverted, nipple shields may be worn (these are cheap and may be bought locally). Such conditions, when present, should be corrected before the baby is born. During the last 3 months of pregnancy the nipples should be drawn in and out gently 2–3 times a day by the mother after applying a little olive or gingelly oil.

Where the infant cannot suck the breasts properly as in cases of hare–lip, cleft–palate and other abnormalities, the breasts may be emptied by hand and the milk given to the infant from a fountain pen filler with a small piece (1") of rubber tubing attached to it, or from a spoon.

To supplement breast feeding offer your baby the bottle feed, after he has emptied both breasts at every feed.

WEANING

Weaning should be done gradually. The mother should take a week over each stage of weaning. After 5–6 months the child needs only 4 feeds of milk provided that other foods as described below are also given. In order to do this there may have to be an adjustment of the times of feeding. The baby should not be weaned in a hurry, as there may be trouble with him or with the breasts. Each time a feed is omitted the breasts may become overful before the next feed. The next feed should then be given earlier than usual. The breasts will thus adjust themselves in a day or two.

During the first week of weaning omit the 2 p. m. feed and replace with a dried milk mixture or with cow's milk. During the next week the 10 p.m. feed is omitted, if this has not already been replaced by rice conje. During the fourth week, breast feed only at 6 a.m.and 6 p.m. During the sixth week all feeds should be replaced with a dried milk mixture or cow's milk together with soup or rice conje.

CHAPTER III

Bottle Feeding

Artificial feeding can never equal breast-feeding. It should not be begun until every effort has been made to establish and maintain breast–feeding, and then only on the advice of a competent doctor or nurse. A mother often starts bottle–feeding because her baby cries immediately after a feed. Bottle–feeding should never be initiated for this reason without medical advice.

CHOICE OF MILK

When it is necessary to take the infant off the breast, he should be given a good brand of dried milk or clean, boiled cow's milk obtained from a reliable source, or when the parents possess their own cow. Continuous supervision of the milk is essential from the time it is drawn to the time it is consumed by the baby. Care must be taken that the utensils used and the hands of the milker are cleansed and washed with soap and water before and after each milking.

COW'S MILK

After the seventh day, a normal healthy infant should be given 2½ ounces (5 tablespoonfuls) of milk per day for every pound of expected body weight, (See page 21) for expected body weight). *Only during the first six weeks does cow milk need to be diluted.* After that, undiluted cow's milk with sugar added, may be given safely to normal healthy infants. The sugar should be added to the milk when it is boiling or very hot (one level teaspoonful to every 3 ozs. of milk.)

TABLE I

AGE	Expected weight in lbs.	Cow's milk oz. per feed	Water oz. per feed	Sugar level teaspoons per feed	No. of feeds per day
0-1 Week	6	1	1	½	6-7
1-2 Weeks	6-7	1½	1½	½	6-7
2-4 ,,	7-8	2-3	2	1	6
4-8 ,,	8-9	3½	1½	1¼	6
9-12 ,,	9-10	4-5	0	1½	6
3 months	10-11	5½	0	2	5
4 ,,	11-12	6	0	2	5
5 ,,	12-13	6½	0	2½	5
6 ,,	13-14	7	-	2½	4 plus 1
7 ,,	14-15	7½	-	2¾	4 feed
8 ,,	15 plu	8	-	3	4 of rice conje

One ounce is usually measured as 2 tablespoons and one household tablespoon is said to measure ½ ounce by volume of fluid. Actually most household tablespoons measure nearly 1 oz. If there are no means of checking the capacity of your tablespoons, stop using them as measures. The best measure to use then is the baby's graduated feeding bottle. If you do not have one of these, use an 8 oz. graduated mixture bottle, which you can buy for a few cents. Each graduation equals 1 oz. Be careful that you do not mistake a 4 oz. or smaller sized bottle for this–here the graduations will be in smaller units–½ or ¼ oz. You may use these **provided you know** the exact volume of fluid contained **between two graduations.**

GOAT'S MILK

If goat's milk is given to an infant, other foods like eggs, potatoes, bone or liver broth, are essential. *Goat's milk given alone for long periods without the addition of other foods as below, often produces an anaemia in infants.* Goat's milk is richer than cow's milk. *No sugar candy need be added to it* but sugar should be used as for cow's milk.

N.B. Whenever a baby is artificially fed, orange juice and cod or shark liver oil should be given regularly from the start of such feeding. Boiled cow's milk is deficient in vitamin C. **The orange juice should be diluted with boiled, cooled water and sugar added to it.** If oranges are too expensive, use Vitamin C tablets, or strained passion fruit juice.

METHOD OF STARTING ON DRIED MILK

In calculating the food requirements of a baby, the expected weight is more helpful than his age but as most mothers have no facilities for frequent weighing we have given the artificial milk requirements for age and not for weight, assuming that the baby's health and progress have been normal.

Method of Calculation — A full-term new-born baby may lose 1 oz. in weight per day during the first 10 days, *i.e.*, a total of 10 ozs. After that he should gain approximately

1st 3 months – ounce per day or 2 lbs. a months.
4 – 5 ,, – 3/4 ,, ,, ,, or 1½ ,, ,,
6 – 12 ,, – 1/2 ,, ,, ,, or 1 ,, ,,
1 – 10 years – 1/4 ,, ,, ,, or ½ ,, ,,

A normal full-term baby should double its birth weight in 6 months and treble it in 1 year, *i.e.*, an infant weighing 6 lbs. at birth should weigh at least 12 lbs. at 6 months and 18 lbs. at 1 year. *Many normal babies exceed these very approximate weights—*

Example

Birth weight	6 lbs.	6 ozs.
Less 10 ozs. for the loss weight of 1 oz. per day for the first 10 days		10 ozs.
	5 lbs.	12 ozs.
At, say, 8 weeks=56 days		
Less first 10 days=46 days		
Gain in weight=46 ozs. (or 1 oz. per day) ..	2 lbs.	14 ozs.
Expected weight	8 lbs.	10 ozs.

If your baby was not weighed at birth and he was not prematurely born or grossly undersized, or overweight, then you may assume that his birth weight was 6 lbs.

Every normal, healthy baby should get 2½ ozs. of milk per pound of body weight from the tenth day.

A baby weighing 10 lbs. should get 25 ozs. of milk per day or 5 ozs. per feed in 5 feeds or 4 ozs. in 6 feeds.

If for any reason a new born cannot be breastfed he should be given half-cream dried milk *up to a weight of 7 lbs.* (or till the age of approximately 1 month) *and then, should be changed gradually to full (or tropical) cream.* Daily replace one feed of half-cream with full-cream dried milk till the baby is only on full-cream. (The milks termed full-cream are only two-thirds to three-fourths cream by European standards except for one or two brands available locally which are up to the latter standard—*e.g.*, Lactogen Similac, and S. M. A.) Do not feed healthy babies on half cream milk foods after they have reached a weight of 7 lbs.

In infants born in well-to-do homes or private hospitals the birth weights are approximately 7 lbs. therefore, half-cream milk should not be given. If 7 lbs. is taken as the standard weight for a changeover to a milk with more fat, then the difficulty re the correct age for the changeover will not arise.

The milk should be prepared freshly for each feed. If you have a refrigerator, milk may be prepared for 24 hours and stored. Before each feed warm the required quantity of milk by placing it in warm water. (The bottle may crack if the water is too hot) It is not necessary to give a new-born infant any bottled milk if the mother intends to breast-feed

the Infant. In our opinion this is too commonly done in private hospitals and nursing homes. Do not allow it.

PREPARATION OF MILK

The golden rule is to boil the milk for babies. If you fail to do this–

1. The baby may contract a disease from which the milker is suffering *e.g.*, dysentery, typhoid fever and intestinal infestations.

2. The baby may contract a disease from which the cow is suffering, *e.g.*, tuberculosis, diarrhoea or dysentery.

The value of the milk is not seriously impaired by boiling it; there is a loss of vitamin C, which can be corrected by the addition of orange or other fruit or vegetable juice to the diet. Do not stop giving orange or lime juice to the baby because he has fever, or a cold or cough or it is a rainy day. This is the time he needs it most!

HOW TO BOIL COW MILK

1. If a double saucepan, which is best, is not available, any ordinary saucepan or an enamel jug will do.
2. After rinsing the jug or the inner saucepan with boiling water, the milk is poured in. Fill the outer saucepan with water and then stand the jug containing the milk in it. Bring the water to the boil and continue boiling for 20 minutes.
3. Remove the jug or inner saucepan and plunge it quickly into cold water to cool the milk.
4. When the milk is quite cold put it away in a cool place until it is required for use.
5. Warm the quantity of milk required by placing it in a bowl of warm water before giving it to the baby.

All utensils, spoons, jugs, etc., used for the preparation of feeds should be cleansed and washed well in cold water, both before and after feeds, and in addition rinsed in warm water before preparing the feeds. Boil all utensils at least once a day. Wash your hands well with soap and water before preparing the feeds and before placing the teat in the bottle.

Please do not wipe teat on clothes or dirty towels. While preparing the feed do not touch your face or your clothes, scratch your hair or your body. Teats and bottles should be boiled before use. The mother should always wear clean clothes and keep her person clean. *Do not chew betel or smoke while preparing or administering feeds for the baby. For making any milk mixture never use boiling water but boiled hot water.* After a visit to the toilet *please* wash your hands well with *soap* and water.

PREPARATION OF DRIED MILKS

Follow the instructions given on the milk good pach. Pour the number of ounces of hot water required into a clean receptacle. Sprinkle on top the required quantity of milk powder and stir briskly until the powder is well mixed. The stirring should be done with a whisk or fork which has been washed previously with soap and boiling water. The resulting mixture should resemble milk or milk diluted with water. If it is creamy, too much milk powder has been used and this may upset the baby's digestion. Pour the milk into the bottle while it is still warm and test its temperature by pouring a few drops of milk on to the back of your hand where the skin is sensitive. At the correct temperature you cannot say easily whether the milk is warm or cold. Use a good thermometer if this is available in which case the temperature should be 98.4° F. Sugar may be added. The mixture should not be boiled.

CHOICE OF BOTTLES

ffhe bottles most commonly used are —

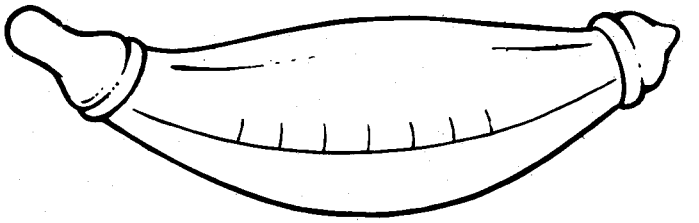

Fig. VI
A boat shaped bottle.

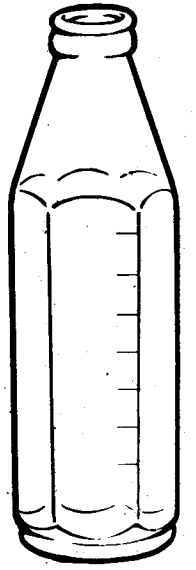

Fig. VII
A pyrex bottle upright Soxhlet.

Both types of bottles are available in 2 sizes, 4 ounces and 8 ounces, and are manufactured by Allenbury's and Glaxo respectively.

If the baby leaves part of his feed this may be kept for the next feed, provided it is covered and protected from flies, dirt and germs.

CLEANING AND STERILISING OF FEEDING BOTTLES

Whatever type of bottle is used, it must always be kept scrupulously clean. It should be washed well with cold water after each feed and kept immersed in boiled, cooled water or in a solution of "Milton" (1 in 80) and the basin or vessel containing it should be covered with a lid.

Once a day the bottle should be washed with a bottle brush and plenty of hot, soapy water. Rinse the bottle with cold water, put in to a saucepan containing water and boil it for 20 minutes. The bottle should be kept in a covered container under water until the next feed.
New and discoloured bottles should be cleansed as follows;–

Add a teaspoonful of soda to 2 pints (4 tumblerfuls) of hot water. After rinsing the bottle well in cold water to remove all traces of milk, immerse it in the above solution of soda water for 1 hour; then brush it till the glass is crystal clear. Rinse well with cold water and bring it to the boil as above.

CARE OF TEATS AND VALVES

Once a day the teats and valves should be rubbed inside and outside with table salt to remove the milk curds. The teats and valves should be washed in warm water and boiled for 5 minutes only in boiling water and not any longer as the rubber will otherwise perish. They should be stood up to drain in a clean saucer and kept covered with a cup or tumbler.

INSTRUCTIONS FOR BOTTLE FEEDING A BABY

How to give a bottle to a baby – The mother should sit on a low chair and hold the baby in a comfortable position on her lap. It is very important to see that the baby's head is extended (*i. e.*, bent backwards) as far as possible when feeding, as this will prevent the baby from swallowing air (Fig. 5).

Warm or cool the milk as necessary by placing it in a bowl of hot or cold water.

Test the temperature of the milk as mentioned on page No. 24. Open the baby's mouth by applying slight pressure on the lower jaw with your left thumb. Without touching any part of the teat with your fingers, insert it into the mouth. Poise the bottle so that its neck is always filled with milk, to prevent air being sucked in.

Never feed a baby lying flat on his back in his cot.

Never leave him in his cot with the bottle propped up on a pillow – Do not play with him or distract his attention in any way during his feed. Let him concentrate on what he is doing.

Help him to bring up wind at the end of each feed and sometimes, if necessary, halfway through a feed. (See Fig. 3 page 11). Then put him back in his cot, turned on to his right side (to prevent inhalation of any vomit) and leave him alone.

If the baby falls asleep while taking the feed or stops sucking for a while, wake him up by patting him. *Feeding time is not sleeping time.* Do not turn or shake the bottle vigorously in the baby's mouth as this may cause injuries and later infection. After 6 months the last feed is changed gradually to rice or barley conje.

Fig. 5

The correct way to sit and handle the baby and hold the bottle while feeding an infant.

Breast–feeding is best for all newborn babies. Any artificial milk is intended to replace or supplement breast milk, when breast - feeding is not possible or is insufficientt or when mothers elect not to breast–feed. Pro–fessional advice should be followed on matters of infant feeding and the cost of milk considered when deciding how to feed the baby.

ARTIFICIAL MILK

Gazette notification of 3rd March 1981 of the Consumer Protection Act No 1 of 1979 directs that no manufacturer or trader shall sell, offer or expose for sale any milk food (powdered) unless there is displayed conspicuously on every pack or container of such milk food any one of the following formula :

Formula I
Formula II
Formula III
Formula IV

The composition of each such formula is shown in the following schedule;

Formula I

The reconstituted product ready for consumption shall contain the following;

1. Milk fat – 2.6 to 3.8 g/100 ml,
2. Milk Protein – 2.0 to 3.2 g/100 ml.
3. Carbohydrates – 6.7 to 7.8 g/100 ml.
4. Energy content of 20 Kilocalories (Keals) per 30 ml.

(between 35 and 55 precent of the energy shall originate from carbohydrates.)

g. Vitamilk.
Ostermilk.
Cow and Gate
Lactogen Full Protein
Lactogen Standard etc.

Formula II

This formula refers to infant milk where the milk fat has been substituted by non-milk fat and it shall;

1. Contain poly-unsaturated fatty acids of the cic-cis form to the extent of not less than 12 per cent of total fatty acids present in fat.
2. Not contain any protein other than protein derived from milk.
3. Not contain any ingredients of non-nutritional value.

eg. SMA.
Enfamil.
Meije etc.

Formula III

This formula refers to milk food not included in Formula I and II but to those milk powders containing not less than 26 per cent milk fat.

eg. Lakspray.
Anchor.
Everyday.
Nespray.
Klim.
Birchtree.
Nespray.
Bear Brand etc.

Formula IV

(Theraputic food) This formula would consist of two different categories and shall be sold only under prescription.

1. Where the formula is derived from vegetable protein.

eg. Sobee.
Presobes.
Isomil.
Calactomin.

2. Where fat content is reduced to levels below 18 per cent

eg. Nestogen.
Pelargon.
Eledon
Lacidac

All dried milks are prepared from high quality cow milk and vitamins A and D and iron are added to them. Tnere is no potent vitamin C in any of them. Therefore, it is most important that orange, lime juice or passion fruit juice is given to baby each day. 1 ounce or two tablespoon-fuls of orange or double that quantity of lime juice, (befor diluting) are required daily. Add boiled, cooled water and sugar. (The sugar must first be boiled in the water. and then, 1 to 2 teaspoonfuls of this syrup is added to the lime juice before giving it to the baby.

One teaspoonful of Cod liver oil or 10-15 drops of shark liver oil are also required daily. This is supplied free at most hospitals and child welfare centres. A very young infant in the second to the third month should always be started on 5-10 drops daily of either, and the quantities gradually increased once a week, by 5 drops, till one teaspoonful of cod liver oil or 10 to 15 drops shark liver oil are given. More than one teasponful cod liver oil should not be given at each dose as it will not usually be tolerated.

Preparation of Milk Formula.

Always get the advice of your doctor in giving a milk formula to your baby. Follow the instructions given on the tin regarding the quantities and preparation. To measure the milk powder, use the measure supplied with the tin. To measure the water if a graduated jug is not available, use the graduations in ounces marked on the baby's feeding bottle. This is more accurate than a household spoon which varies so much in size.

TABLE IV

(Formula I)

	Approx. 6 a. m. 3 p. m.	9 a.m. 6 p m.	12 noon 9 p.m.	Approx. 6 a. m. 6 p. m.	10 a.m. 10 p.m.	2p.m.
Age of baby	Level measures of milk powder	Make up with boiled water in measures	Ounces of water	Level measures of milk powder	Make up with hot boiled water in same measures	Ounces of water
1 week	1	5	2			
2 weeks	1½	8	3			
3 weeks	2	8½	3¼			
7month	2½	9	3½			
2months	3	9½	3¾			
3 ,,	3½	12	4½			
4 ,,				5	15	5½
5 ,,				5½	16	6
6 ,,	4 feed plus			6	17	6½
7 ,,	1 of rice or			6½	18	7
1–12,,	barley conje			7-7½	20–22	7½-8

N. B. 1 measure =3/8 oz. by volume and ⅛ oz. by weight of powder. Below the weight of 7lbs. half cream is recommended. The quantities and dilutions are the same as above. *(Formula IV)*

TABLE V

(Formula III)

Age of baby	QUANTITIES OF EACH FEED Full cream Boiled water level measures	measures	Fluid ozs.	No. of feeds per 24 hours	
1 week	½	4	2	6	
2-3 weeks	1	5	3	6	
4 ,,	1¼	7	3½	6	
5-8 ,,	1-1	7-7½	3½-3 3/4	6	
9-10 ,,	2	8	4	6	
11-13 ,,	2½	10	5	6	
4 months	3	12	6	5	
5 ,,	3¼	13	6½	5	
6 ,,	3½	15	7	4	plus one feed of barley or rice conje
7 ,,	4	16	8	4	
8-12 ,,	4½	16	8	4	

N·B. 1 measure=½ oz. by volume and ¼ oz. by weight of powder. Below the age of 1 month or a weight of 7 lbs. half –cream is reacommended. The quantities and dilution or half cream are the same as for full cream.

N.B. 1 measure = ⅛ oz. of water.
1 level measure of milk powder = ⅛ oz. of powder

Half–cream milks are especially useful for new-born babies where no breast milk is available and for those who are recovering from gastro–intestinal diseases such as acute diarrhoea or dysentery. There are two preparations available half cream Cow & Gate and Nestogen

The preparation and dilution of the milk is the same as for the full–cream dried milks. Acid milks like Lacidac, Pelargon, Eledon are prescribed for infants with diarrhoea *These are not indicated in normal infant feeding.* Healthy babies over 7 lbs. in weight *do not need half–cream* milk feeds.

(The Sri Lanka sweet lime unlike the West Indian has quite an appreciable amount of vitamin C, though its content is about 1/2 – 1/3 that of an equal volume of orange juices)

TEATS AND VALVES

The best teats available locally are made by Allenbury'. and Glaxo. These should be replaced at least every three weeks. If a teat does not expand immediately after it is released from pressure by the fingers it must be discarded and replaced by a new one.

Size of the hole in the Teat -- The hole in the teat should be big enough to allow the milk to flow almost in a continuous stream. If the hole is not large enough it may be enlarged by a fine sewing needle. Push the eye of the needle into an ordinary cork. Then make the needle red hot by heating it over a flame. The feeding bottle containing a little water is held with the teat downwards, and the needle which is made red hot is plunged through the lower end of the teat. This may be repeated till the required rate of flow is obtained.

N.B. The hole in a new teat is usually not large enough for the required rate of flow of milk. It is always best to test it and to follow the above procedure if a bigger hole is required.

Many mothers make the hole too big by nipping it with a pair of seissors. This is a bad practice and should be discouraged. This is also done in hospitals by some lazy attendants who want to finish their chores in double-quick time!

CHAPTER IV

General Care: Weaning Period and Later

SLEEP

The baby must be trained to sleep on his side as well as on his back on a separate cot or a mat. *On no account should he sleep with his mother on the same bed or mat during the night in case the tired mother may accidentally sleep on him and cause him harm.* No pillow should be given to any infant under 4 months as it may interfere with his breathing, when on his side. A newborn baby should sleep all the time and only wake up for his feeds or when he has wet or dirtied himself. Change baby's nappy, whenever he is wet especially before a feed and putting him to sleep. At the end of the first month or two he should get at least 20–21 hours of sleep a day, and by one year, 16 hours. If this is appreciably less, consult a doctor.

DUMMY

Giving a dummy to a baby is a had habit— it causes abdominal discomfort as the baby sucks in air; it is also a source of infection and many diarrhoeas, worms etc., are due to this evil habit. If you do have to give a dummy then tie it round the baby's neck so that it does not get soiled.

DRESS

Do not overdress the baby with woollen vests, blankets, bonnets aud booties. *'In the low country a naked baby is the best-dressed baby.* Upcountry, the baby must be kept warm with woollen vests, blankets, etc·

During the night and in the wet weather in the plains the minimum of cotton clothing or covers such as sheets may be used. The small babies become cold very easily. If the night or day is cold, keep him warm.

BATH

All healthy normal babies should be given a bath daily preferably between 9 a.m, *and 10 a.m. after the cord drops.* Warm water should be used. Check the temparature of the water with the back of the palm of your hand. **Procedure**—Undress him & hold him on your lap on a towel, clean his eyes with a damp swab of cotton wool. Sponge his face. Soap his hair, rinse & dry with a soft cloth or a towel. Soap his body. Lower him into the water to wash the soap off. Dry him well paying particular attention to the creases under the arms, between the legs and the neck. Dress him. *Till the cord drops, sponge the baby and do not immerse him in a bath.*

Figure VIII shows how a large earthenware pot, which is available in most poor homes, may be used as a baby's bath.

N.B. Remember to wash your hands with plenty of soap and water before and after handling the baby.

FRESH AIR

Keep all windows open both day and night but the cot must not be placed in a draught. *Night air is not harmful.* Take the baby out of doors as early and as often as possible but take special care at all times that the baby is protected from rain or a draught.

TOILET TRAINING

There is a great deal of controversy on this vexed question. It is impossible to toilet train a child until

Fig. 8

A large earthenware pot as a baby's bath.

he is I year–old but the mother must learn to "catch" the faeces in a pot. She must learn when the baby is likely to defaecate and by these means gradually the child will learn what is expected of him. A pot does not mean an expensive enamel or porcelain chamber but any large tin which has had its top edge battered in The child must be placed on the pot and taught to defaecate at the same time or times each day; but he must be taken away after a few minutes and not left on it for long periods to cry his eyes out because he has not done what in the mother's opinion he should have done. It is not necessary, specially for a breast–fed infant, to have a daily stool.

EXERCISE

Let the baby wave his arms and legs about freely after his bath. He should be placed on a mat on the floor (without a pillow) after 4–6 weeks. If the mat is soiled or wet it must be washed with soap and water and dried.

SUPPLEMENTS TO THE DIET

Second month — Fruit juices such as orange or lime, papaw, tomato or grape–fruit are commenced when the baby is in his second month.

Orange juice should be given once a day, with boiled cooled water and sugar. If oranges are expensive or not available, papaw and lime juice should be given. *The orange or lime should be given as soon as it is cut.* (Vitamin C tablets (50 mg.) are cheaper than

any fruit.) Exposure to sunlight after cutting or squeezing the fruit destroys a considerable portion of its vitamin C. *Warm or hot water too must not be added to the fruit juice* for the same reason.

Two teaspoonfuls of lime juice are equal to 1 teaspoonful of papaw, or orange juice. Start with 1 teaspoonful of the latter or two teaspoonfuls of the former and increase this by a teaspoonful once or twice a week, till 1 oz. *i.e.*, 2 dessert-spoonfuls of orange juice (or 4 of lime juice) are given by the 5th or 6th month. This must be continued till the 2nd year or even later. The above quantites are of undiluted orange or lime juice and equal parts of water may be added with sugar to taste. (See footnote Page 26.)

Third month to Fifth month — In the third month 5–10 drops of cod or 10–20 drops of shark liver oil should be given to the baby once a day. Increase by 5 drops once a week to I teaspoonful a day and continue with this dose for 2–3 years. The cod or shark liver oil should be given in the orange juice.

Sixth month — *Rice conje* – country rice is best. If you get raw rice on your ration, roast this before making the conje. Wash a tablespoonful of rice once or twice, add 3 teacupfuls of water and boil down to 1 teacupful of conje. Add salt to taste and offer it to the baby while it is still warm—a tablespoonful just before the night feed is given and this quantity is increased by a tablespoonful once or twice a week till the milk is completely replaced by the conje. Do not strain the conje; smash the soft grain into the conje and feed this with the spoon.

(5 oz)

Barley conje – The preparation of barley conje is the same as of rice conje. If rice is in short supply barley may be substituted. This should be fed with a spoon.

Pablum, Pabena, Cerex, Farex etc. – Start with I teaspoonful and gradually increase to 1 tablespoonful. Add any one of these to warm cow milk, milk formula or water and stir well with a fork. The cereals need no cooking. Add sugar or honey to taste.

Ripe Plantain (Kolikuttu, Anamalu or Ambul), may be given mashed. One teaspoonful of an over-ripe plantain may be given at 10 a.m. increasing by one teaspoonful once or twice a week till a whole plantain is given. Do not believe the old wives' tales that plantains breed worms or are cooling.

Papaw, mashed may be substituted for plantains; papaw is very rich in vitamin A as well as in vitamin C and is probably the finest fruit we have from a nutritional point of view. How seldom is it given to infants and chiidren!

Avocado pear, may be given with milk and sugar after the 6th or 7th month. It is excellent for underweight babies and childern.

Vegetable broth – Vegetables, *e. g.*, Dhal, carrots, potatoes, bombay onions, tomatoes, any green leaves, like spinach are the most valuable vegetables. Wash the vegetables well in cold water and cut them into small pieces. Three teacupfuls of water are added with a pinch of salt and the whole is boiled over a low fire for ½ hour. This is strained through a cloth and given to the baby. The over-cookihg of vegetables destroys valuable vitamins and minerals. *Cook in a closed vessel until the vegetables are tender* but do not over-cook and *do not throw away the water that vegetables are boiled in.*

Baby is started on 1 dessertspoonful of this broth and this is increased by a similar amount twice a week till the whole milk feed is replaced by it. Vegetable broth is usually given 20 – 30 minutes before the 2 p.m. feed. After a fortnight add well-washed dhal to the soup and after a further 7–14 days take a handful of dried sprats, with the heads on, wash well in several changes of water, dry it in the sun, pound it and add it into the vegetables and boil as before. Alternatively, sieved vegetables may be given, Vegetables boiled for 15–20 minutes are passed through a fine sieve and fed to the child in the same way and amount as the vegetable broth.

Bone broth – Broth should be made from 1/2 pound of beef or broth bones. Remove completely the fat and the meat. Chop the bones into small pieces, add 2 teacupfuls of water and a teaspoonful of good vineger and simmer for 1/2 an hour over a low fire. A little salt is added to taste. Strain the broth and give it warm. Start with one dessertspoonful before the 2 p.m. feed and gradually replace the milk with the soup. Vegetables as above may be added to the bones after 1/2 an hour and the cooking continued for a further 1/2 an hour. As the infant gets used to this, gradually leave more and more of the fat and meat attached to the bones.

Egg – A quarter of a teaspoonful of a half-boiled egg yolk may be added to the diet and increased once or twice a week by 1/4 teaspoonful until a whole egg yolk is given, This may be given before the 10 a.m. feed. Wash the egg and place it in a pan of cold water and start to heat it. As soon as the water commences to boil remove the egg, or place the egg in boiling water and count fast to 300 and then remove the egg. When

nearly the whole yolk is given some of the white may also be allowed, It is then not necessary to give this daily. One egg every other day is sufficient till the third or fourth year. *It mnst be emphasised that it is the yellow part of the egg (yolk) and not the white that is valuable to the child.* So often in Sri Lanka only the latter is given. The eggs, of course, must be fresh. Try to give eggs which have bright yellow yolks.

Seventh month — **Rice** – Add soft boiled rice. It is not necessary for the child to have cut any teeth or to have sat up before any rice is given. Wash the rice well in cold water. Separate any grains of sand or paddy and boil the rice till it is very soft. The rice is given with the broth. Start with 2 teaspoonfuls and increase by a teaspoonful once a week. No curries or coconut milk gravies should be given until the first birthday is past or on the advice of a doctor.

Green gram is an excellent pulse and should be given in the soup.

Bread or rusks – These should be given with a little margarine. Margarine is better than butter.

Eighth month --

Dambala	Drumsticks	Lanka Parippu
Tomatoes	Cabbages	Sweet potatoes
Bombay onions	Ladies' fingers	Dhal
Carrots	Spinach	Leafy Vegetables
		Potatoes

These and yams like "dehi ala" may be given in the soup daily. *Do not give them as curries at this age*

Egg Custard – 1 egg, 1 cupful of milk, 2 teaspoonfuls of sugar, a pinch of salt and a little flavouring, Beat the egg and the sugar together, and add the salt and the flavouring to the milk and pour it slowly on the egg mixture, stirring all the time. Pour into a buttered pie dish and bake in a moderate oven until the custard sets and becomes a light brown colour. This same mixture could be steamed in a double saucepan.

Milk Pudding

Steamed or Boiled Fish may be added to the broth.

Dried sprats – These should first be washed well and cleansed of all grit and sand, dried, pounded and added to the broth before boiling. Dried sprats are very valuable and relatively cheap source of first class protein. Weight for weight, sprats contain about 2½ times as much protein as beef without bone. The chief disadvantage is that they are so dirty when bought. **Do not pull off the heads of the sprats before cooking.** Small fish like Katillo and karralIo are excellent in the soup.

Dehi ala, is a very good yam and may be added to the broth about the 7th or 8th month in place of potatoes.

Yellow sweet potatoes – Yellow sweet potatoes are more nutritious than potatoes.

Carrots – May be added to the soup. Raw sliced carrots may be chewed by the child from the 7th or 8th month.

Drumsticks, dhal, (poor man's meat). **gram, green gram** cow pea (especially Lanka parippu) **and beans,** are thef best vegetables of all. They are rich in proteins. Green gram should be roasted and the outer covering removed before cooking by spreading it on a clean piece of paper and rolling a bottle on it. Alternatively, soak the green gram overnight in water. The outer shell is then easily shed. The child may be given 'mung kiribath' which is well boiled.

Ninth month — Add boiled, minced liver or chicken. These may be given in the soup with the rice.

Tenth to Twelfth months — Add small amounts o, mutton, beef and light puddings. A whole egg lightly boiled, poached or scrambled, should be given 3-4 times a week. Boiled sweet potatoes, jak and bread-fruit may be given.

White Curries may be given after the 1st birthday, No hot curries should be permitted until the third or fourth year, to prevent any gastric disturbances.

FOODS THAT ARE UNSUITABLE FOR CHILDREN UNDER TWO YEARS OF AGE

Meat – Pork, veal, goose, duck, turkey, corned beef sausages, potted meats, etc.

Vegetables – Yams like manioc, cucumber, radish, etc.

Nuts are not to be given, as it often causes a diarhoea.

Fruits – unripe or sour fruits. If apples or pineapples are given they should be stewed. Ripe jak, of course, should be prohibited, as it sometimes causes abdominal pain or diarrboea,

Miscellaneous — Tea, coffee, pickles, sauces, chutneys new bread, heavy fruit cake, pastries, fried foods, ham, chocolates with fruit or nut, oil cakes and other greasy and rich homemade sweets, *e.g.*, kaludodol, mung kawun, murukku, etc. should not be given.

Second year – In the second year at least 1 pint (= 2 tumblerfuls) of milk is essential. This quantity, should be continued until the child reaches adult age. Any dried milk that has been given in infancy may be continued throughout childhood*t* There is a general belief that it is not good to continue dried miiks like lactogen, cow & gate, milkose, etc., for longer than 1–2 years. This is quite untrue, *Do not give too much milk*. This is a common mistake and the child will not take sufficient solids if this is done. Give breakfast foods like corn flakes, porridge, 'mung kiribath', milk rice etc. The cheapest is "pori", which is mixed with milk and sugar and is very pleasant to take. When the child makes a fuss about taking his milk, give it in the form of ice cream, custards and puddings rather than as a drink of plain milk. Curd is a good substitute but is expensive.

N.B. *Do not stop all milk when rice is given. Rice and milk do not breed worms.*

Lean bacon may be given to a child in its second year. **No child needs more than one meal of rice a day.** The other meals should consist of bread or rusks with fish, meat and vegetables.

In the second year, **dried sprats, fish, meat, dhal and beans should be** given curried

Hoppers & string hoppers are given.

Kurakkan is an excellent food but it contains a large amount of grit and dirt. If these can be eliminated,

kurakkan may be given in the form of a gruel, like conje, to very young children from the second half of the first year onwards.

Fruits practically any fruit except raw pineapple or apples or ripe jak may be given from the beginning of the second year. Children should eat fruit twice or thrice a day with their meals. Fruits have plenty of Vitamin C.

Third year — Sprats may be given lightly fried. The curries allowed may be hotter, Chocolates, rich cakes etc., may be permitted. Meat or fish should be givenat least once a day; one egg every other day; plenty of vegetables especially green vegetables, dhal and, beans should be allowed.

Pittu and rotti can be given. Sweet potatoes and other yams besides fruit vegetables like tomatoes, dambala ladies' fingers and drumsticks should be given several times a week. Remember at each of the two principal meals to give some form of animal protein like milk, fish or dried fish, egg, meat or cheese.

CHAPTER V

Baby's Day

N.B. Detailed instructions for breast feeding and preparation of various foods, etc., are given in earlier chapters. The times given in this Chapter are not to be considered as rigid.

FIRST THREE MONTHS

If the baby is fed on a self-demand schedule you will find, at the end of 4–6 weeks, that the baby will have his own feeding times which usually do not exceed 6 feeds during the 24 hours, which amounts to 4 hourly feedings.

6.00 a.m. A breast or bottle feed (2–4 ozs. of latter at each feed). Put the baby back in the cot to sleep and turn him on to a side.

8.00 a.m. Orange or lime juce (see page 26). Commence with one or two teaspoonfuls respectively. Cod or shark liver oil. Commence with 5–10 drops. These items are added in the third month (The latter may be added to the fruit juice and given together). A warm bath.

9.00 a.m. A breast or bottle feed.
A long sleep indoors with windows open or out of doors if the weather permits.

A drink of water (two tablespoonfuls) after a sleep.

12.00 noon A breast or bottle feed. A long sleep and a drink of water.

3.00 p.m. A breast or bottle feed.

5.15 p.m. Undress the infant for the night. Before putting on his night clothes, let him kick and play quietly on his bed for a few minutes. Sponge or wash him with warm water and dress him.

6.00 p.m. A breast or bottlefeed.

6.20 p.m. Bed time, lights out—windows open and the doors shut.

10.00 p.m. A breast or bottle-feed.

2.00 a.m. If the baby wakes up and cries and no other cause may be discovered for the crying give a breast or bottle-feed. This is less exhaustihg to the mother and to the father than letting the baby cry his eyes out for hours on end!

FOURTH TO FIFTH MONTH

6.00 a.m. A breast or bottle feed (5–8 ozs. of latter at each feed). After his feed leave the baby alone in his cot to sleep or play.

8.15 a.m. Orange, papaw, lime or tomato juice with cod or shark liver oil.

A warm bath.

10.00 a.m. A breast or bottle-feed.

10.20 a.m. A long sleep out of doors, if weather permits: or indoors, with doors and windows open, A drink of water after his sleep (3 table–spoonfuls).

2.00 p.m. A breast or bottle-feed.

2.20 p.m. Sleep.

A drink of water after his sleep.

Play.

5.15 p.m. Undress and wash for the might.

6.00 p.m. Bottle-or breast–feed.

6.20 p.m. Bed time ,lights out, windows open, and the doors shut.

10.00 p.m. A breast-or bottle-feed.

N.B. If the baby wakes up at night, try to quieten him with a drink of plain, warm boiled water–about 5–6 ounces. If this does not put him to sleep and the causes for crying (*e.g.*, wet napkin) have been excluded, a feed may be given, after 1 a.m. There is no sense in keeping him and the rest of the household up night after night because of his crying.

SIXTH-SEVENTH MONTH (refer pages 36–39)

6.00 a.m. A breast-or bottle-feed. Leave the baby alone in his cot to sleep or to play.

8.15 a.m. Orange, lime or tomato juice 1–2 ounces (2–4 dessertspoonfuls) *i.e.*, without water, and cod or shark liver oil, one teaspoonful,

Alternatively juice as above with 1–2 teaspoonfuls of ripe mashed plantain, papaw. avocado pear etc. These quantities should be gradually increased.Warm bath.

10.00 a.m. Cereal. pablum, pabena, cerex, farex, or rice or barley conje.

Breast-or bottle-feed.

At the sixth month add egg yolk to the diet. (See page 38)

10.20 a.m. Sleep out of doors or on the verandah, if the weather permits.

A drink of water.

Play.

2.00 p.m. Vegetable and/or bone broth and sieved vegetables. I dessertspoonful (See page 38) Gradually increase this quantity. After one or two weeks on broth add one teaspoonful of soft boiled rice to it and gradually increase the quantity of the latter. (Sixth to Seventh month), Sprats, chopped, lean meat or fresh fish (Karallo or Katillo) dehiala, sweet potatoes and carrots may be added gradually to the soup.

2.20 p,m. Sleep.

A drink of water after his sleep,

Play.

5.15 p.m. Undress and wash and dress him for the night.

6.00 p.m. Cereal as at 10 a.m.

Bread or rusk with butter.

Fruit, such as ripe plantain, papaw or orange or boiled or baked custard, milk pudding.

Breast–or bottle–feed.

6.20 p.m. Bed time, lights out, windows open, and the doors shut.

10.00 p.m. Commence with 1–2 tablespoonfuls of rice or barley conje and replace completely the breast-or bottle-feed (See page 36.)

EIGHTH TO TENTH MONTH

6.00 a.m. Breast feed or 8 ozs. of boiled whole milk.

or (cow milk) or full (or tropical) cream milk

7.00 a.m. formula. Leave the baby in his cot to sleep or to play.

8.30 a.m. Orange, papaw, lime or tomato juice or mashed papaw or plantain. Cod or shark liver oil,

10.00 a.m. Cereal: pablum, pabena, cerex, farex mung kirlbath, pori, corn flakes milk rice or three teaspoonfuls of egg yolk - half boiled (at the tenth month one whole egg yolk) may be given. 6–8 ozs. milk or milk formula.

10.30 a.m. Sleep out of doors, if weather permits.
A drink of water after sleep.
Play.

2.00 p.m. Vegetable puree (tomato, carrots, bombay onions, ladies' fingers, spinach, dhal, green gram, leafy vegetables, potatoes, etc., and vegetable and/or bone or liver soup 4–6 tablespoonfuls (Commence with 1 tablespoonful and gradually increase the quantity). Add dehi ala & dried sprats to the soup. Minced liver, chicken or fish 1-2 teaspoonfuls at the start and gradually increase to 4–6 tablespoonfuls. Bread or rusks with butter or soft boiled rice.

Bread milk or milk formula (as the quantity of soup or puree given increases, the quantity of milk will decrease).

2.20 p.m. Sleep.
Drink of water after sleep.
Play

5.30 p.m. Undress and wash and dress him for the night

6.00 p.m. Cereal or kola kanda if desired, as at 10 a.m,
Fruits—mashed plantain, papaw, avocado, pear, mango, custard apple.
Egg custard, milk pudding or gelatine desserts (fruit jellies), if desired,
6–8 ozs. milk or milk formuln.

6.30 p,m. Bed time, lights out, windows open and the doors shut.

10,00 p.m. Rice or barley conje, if desired.

ELEVENTH TO TWELFTH MONTH

6.00 a.m. Orange, papaw, lime or tomato juice, 1–2 ounces with shark or cod liver oil.

7.30 a.m. Brush teeth, toilet, warm bath.
Dress.

Breakfast Cereal kola kanda, Pori, Mung kiribath, milk rice or barley conje.

1 slice of toast or bread or a rusk with butter or margarine

1 egg—scrambled, half-boiled or coddled. Milk 8 ounces.

Toilet for bowel movement. Wash hands, Out of doors, if the weather permits.

Play in the sun whenever possible with a minimum of clothes.

Sleep.

Drink of water after sleep, if desired.

10.00 a.m. Fruit or fruit juice.

Mid-day meal Bone or vegetable soup with dhal and curried vegetables. Boiled, or minced, beef 1 tablespoonful, of chicken or liver two tablespoonfuls or boiled fish 1–2 tablespoonfuls.

(Serve liver at least twice a week, if possible).
Toast, bread, rusk with butter or margarine or soft boiled rice or a small serving of potato boiled or creamed.
Custard, pudding or fruit.
Toilet, wash hands and face.
Sleep.
Drink of water after sleep, if desired.

3.00 p.m. Milk 8 ounces,

Evening meal

6.00 p.m. Bread, potato, toast, or rusk with butter or margarine and cheese.
Fruit–½–1 plantain or 2–4 tablespoonfuls of papaw, mango, avocado pears, etc.
Cereal, if desired, as at breakfast,
Custard or milk 8 ounces.
Toilet, wash and brush teeth.

6.30 p,m. Bed time, lights out; windows open and the doors shut.

10.00 p.m. Milk 9–10 ounces.

TWELFTH TO EIGHTEEN MONTH

Vitamin

Continue cod or shark liver oil.

Fruits

Orange, lime, tomato, grapefruit, papaw, plantains, apples, and any fruit in season, *e,g.*, mangoes, mangosteen, custard–apple, etc. may be given, Do not give raw apple or pineapple. Grapes are a waste of money as it contains a large percentage of water and has little food value. Avocados with milk and sugar or honey are excellent sources of calories and fat.

Cereals

Continue rice, barly, conje, mung kiribath, milk with milk. The crust of a hopper may be fed to the child.

Egg and Bacon

Egg, coddled, half–boiled, scrambled or poached. Bacon, lean, well–cooked, no fat.

Beans

Butter or runner beans, boiled or curried

Pulses

Dhal, green gram, Lanka parippu, dambala, soya beans.

Vegetables

All types of vegetables and innala, dehiala and sweet potatoes especially the yellow or red variety.

Bread

Stale white bread, with butter or margarine and cheese, jam or honey.

Toast

Toast, with butter or margarine and cheese, jam or honey.

Rusks

Rusks, with butter or margarine and cheese, jam or honey.

Sponge cake – biscuits – fudge.

Milk

As much milk as the child will take undiluted. For variety add a little cocoa, chocolate, soda water etc. (total requirement of milk should not be more than 24 ounces or less than 20 ounces). If fresh milk is not available, any full

cream or tropical cream milk may be given. If these are beyond your means skim milk may be given—5 desert-spoonfuls to 10 ounces of water with 2 teaspoonfuls of sugar or sweetened condensed milk, 6–8 teaspoonfuls to a large cup of water. These may be given twice a day. When the child refuses his milk, try giving it with pori and treacle or honey.

Meat and fish

Beef, liver, brain, tongue, and fresh white fish; if these are beyond your purse, dried sprats may be given (The last must be thoroughly washed and dried before cooking).

Chicken

Minced and white.

Starchy foods

Potato, creamed or mashed. Rice, soft boiled; about 1–2 ounces = 2–4 level dessertspoonfuls. Yams, dehiala, sweet potatoes, jak, bread-fruit and white curries without much condiments.

Vegetables

One or more vegetables. Green vegetables, cabbage, spinach, lettuce, (the tender leaves of mukunuwenna, kankun) and gotukola: tampala, sarana, drumstick leaves, white curries or boiled. Katuthampala and kathurumurunga are the best green leaves of all.

Breakfast, 7–8 a.m.

Same as for the 11th and 12th month.

10–00 a.m. — fruit or fruit drink

Mid-day meal, 11 a.m. — 12 noon

Soup, beef, mutton, chicken or liver broth, clear or thickened with barley, rice, macaroni, vegetable or

creamed soups, tomato, dhal or sweet potato. If you cannot buy these, dried sprats with vegetable broth may be given. Rest is the same as for 11th–12th month.

Afternoon Tea, 2 – 3 p,m.

Bread and butter, or margarine, sponge cake and biscuit. Seedless jams jelly or bees honey, Milk 8–10 ounces.

Evening meal, 5 - 6 p.m.

Same as for eleventh to twelfth month.

Dessert and fruit

Any plain pudding once a day. Ripe fruits except apples or pineapples, stewed.

EIGHTEENTH TO TWENTY-FOURTH MONTH

On waking – orange, grape fruit or passion fruit tomato juice with cod or shark liver oil.

Breakfast, 7 – 8 a.m.

Toast or bread with butter or margarine and white cheese or bees honey.

Cereal – as before or hoppers (crusts) or 1 string-hopper No sambol. These may only be given with butter, honey, golden syrup, or margarine.

Kurakkan porridge gotukola conje or other break-fast foods (corn flakes, pori, etc).

Milk with the above or separately with cocoa coffee or tea or soda water. If the child refuses milk try curd and treacle, ice cream, yoghurt etc.

Mid-day meal, 11 am — 12 noon

Cooked vegetables, boiled or curried, with very little or no chillies. Vegetables are classified into 4 groups;- (*a*) Leafy (*b*) Tubers or yams (*c*) pulses (*e.g.*, Dhal

or green gram) (*d*) fruit *e.g.* drumsticks etc.). All 4 kinds shown may be given daily, 2 at each meal. A small serving of potato or preferably sweet potatoes, rice, toast or bread. Minced beef, chicken, l iver, mutton fresh or dried fish. Sprats, dhal or beans, curried. Fruits, custards or puddings.

2 – 3 p.m.

If desired and if the child's appetite is good, milk, fruit or fruit juice – or a slice of sponge cake, 1 or 2 biscuits or rusks – bread and butter or margarine, or bees' honey or seedless jam, may be given.

Evening meal, 5 -- 6 p.m.

Bread, potato or toast with butter, cheese and stewed fish. vegetables or other curry may be given with bread rather than with rice for the evening meal, and fruit, ripe banana or papaw.

Cereal as at breakfast. Milk.

Bed

Not later than 7.00 p.m.

10.00 p.m.

If the child wakes up and asks for it, he should be given milk, rice or barley conje.

SECOND TO FOURTH YEAR

On waking – orange, grape fruit or tomato juice with shark or cod liver oil

Breakfast, 7 -- 8 a.m.

Cereal – See earlier.

Bread, toast with butter or margarine and white cheese. Bees' honey or seedless jam or porridge; bacon and egg, hoppers or string-hoppers with butter or margarine honey, etc., or coconut milk gravy and milk. one can make a testy porri egg with kurakkan.

10.00 a.m.

Fruit to eat – apple, plantain, orange or papaw.

Mid-day meal, 11 a.m. -- 12 noon

Two fresh vegetables. Small serving of rice, potato, sweet potato, bread or toast. Small portion of fish, dried fish, chicken liver, beef or mutton. Sprats may be given lightly fried. Stewed or fresh fruit – custard apple mango, avocado pear, papaw, pineapple, grape, fruit, banana, a custard or a milk pudding.

3.00 p.m.

Afternoon tea as in the previous year,

Evening meal

Bread or toast with butter or margarine and cheese. Potatoes, egg or fish.

Fruit, stewed with custard.

Cereal as at breakfast.

Milk.

N. B. Salads (fruit, lettuce, tomato, etc.) may be added to the diet at this age. (Salad leaves, should be washed well and then dipped in boiling water and removed quickly, before consumption).

AFTER THE FOURTH YEAR

The diet of the child after 4 years does not require a list of specially prepared foods, All meals should be prepared for the family with the child's needs in mind. However, the following foods should be included in the diet of all children.

Milk

I pint (= 2 tumblerfuls) given with meals. (See page 50 for various ways of giving this). If you cannot afford this, give skim, or even condensed milk in adequate quantities. Curd is a good substitute.

Egg

At least every other day, boiled, poached, scrambled, fried or as an omelette.

Meat or fish

A small amount daily of beef, chicken, mutton, liver and bacon. Any fresh or dried fishr, no salted fish should be given till the child is over 2 years of age.

Cereals

Once or twice daily. One feed of rice and one to two slices of bread. Train your child from his early days to one feed of rice only, per day, kola kanda daily.

Vegetables

Once or twice daily, (mashed or finely divided but not sieved) spinach or other greens, mukunuvenna, thampala, gotukola, sarana, carrots, peas, beans, potatoes, onions, lettuce, beets, dhral, green gram, etc,, (See page 50).

Soups

Vegetable, bone and sprats etc., broths.

The following is a good receipe for a soup which is of a highly nutritional value but costs very little,

Dried sprats (whole with heads) should be soaked overnight, washed well to remove dirt and sand and dried in the sun. Then roast them and powder.

Green gram (roasted and the outer covering removed, as it is indigestible), Mukunuwenna or thampala leaves, a couple of red onions, salt to taste,

Method - Boil the green gram, onions and mukunuwenna or thampala leaves till they are well cooked. Add the powdered sprats and salt. Soup could be given to children of all ages. The soup and the puree could be fed to children after their first birthday.

Fruits

Fruits may be given fresh or cooked.

Tomato, lime, passion fruit or orange juice, should be given daily. At least 2 ounces of the undiluted or double that quantity of the lime juice.

Cod or Shark Liver Oil

1–2 teaspoonfuls of former and half a teaspoonful of latter are sufficient.

If only skim and not a milk with fat is given, then 2 teaspoonfuls of cod or shark liver oil should be given daily.

N.B. Do not give large amounts of milk, sweet or fatty foods and do not allow the child to eat between meals as this may cause a lack of appetite. If properly trained most children will eat what is given to them. *However, food should never be forced on a child.* Consult a doctor if a poor appetite continues for a long time. Changing the room in which the child is fed, outdoor meals, or a more interesting and a greater variety of foods often helps. In the case of an only child get him a slightly older companion with a good appetite to eat with him. Changing the colour of the cloth, crockery or the person giving him the food may help to increase his appetite. Open air meals picnic style (*e.g.*, sandwiches) may also help him.

IMMUNISATIONS

Oral Polio Vaccine (Sabin) -- This should be given to all infants. The first dose should be given in the 3rd month -- *4 drops at a time.* The second dose is given at 5 months and the third at 7 months. Booster doses should be repeated in the 2nd year of life. (at about 18 months) If the Salk Vaccine had been given earlier, there is no reason why the oral vaccine should not be used as a booster.

3rd, 5th & 7th month D.P.T. -- (Triple Vaccine) 3 shots, are given against diphtheria, whooping cough and tetanus. with an interval of 6–8 weeks between each. A booster dose is given in the 2nd year (18 months) and another just before going to school (5 years), These should not be given if there are any cases of acute poliomyelitis in the neighbourhood. These shots may be combined with the oral polio vaccine at the same visit.

If there is a history of convulsions in the child or his siblings with a similar history, then D.P.T, (omitting the whooping cough) vaccine should be given. Tetanus toxoid booster dose is given between 10–14 years.

Typhoid Vaccine

4th, 5th years -- Inoculation against typhoid fever -- 2 injections with an interval of 4 weeks. A booster dose is given between 10–14 years.

B. C. G. Vaccination -- This is done at all government hospitals, chest clinics and maternity homes. If there is a case of tuberculosis in the home, all the children must be given B. C. G. vaccine. This may be administered from the age of 2 days after birth. There is no danger whatsoever in B. C. G. vaccination provided it is done by a trained person. 2nd B. C. G. vaccination is done between 10-14 years. In low birth weight infants it is best to postpone this vaccine till a weight of 6 lbs. is reached.

NOTE WELL

In the 6th month of life, supplementation of breast or any other milk with other foods is most important. *Do not stop all milk when you wean the child or have started giving him rice. Whatever else you must cease giving, continue giviug milk till he is at least* 12 – 15 *years old. This is our most urgent and important need.* If you have sufficient breast milk after your child is 9–12 months of age and you cannot afford to buy adequate quantities of other milks, *continue nuvsing your child as long as your breasts secrete milk or you get pregnant again.* You may continue lactation during the first three months of the next pregnancy too but not longer.

Avoid another pregnancy until your baby is at least 3 years old. Refer to the chapter on "Family planning" Consult any family planning Clinic at your nearest hospital or write to the Family Planning Association, Sri Lanka, 33 Bullers lane, Colombo, for advice.

CHAPTFR VI

The Baby of Low Birth Weight

A baby of low birth weight (*Fig. 9*), (Old term "premature baby" is not used now), is a baby either born before term or a baby born at term, but small and of low birth weight. The usual period of gestation (*i.e.* between cenception and birth) is nine months, or in terms of weeks, 40 weeks or 280 days. The last 12 weeks or 3 months of pregnancy are most important to the baby because the gain in weight and length are greatest during this period. Sometimes, however, the baby's growth is retarded during this time; when he is born he will be fully mature but of abnormally low weight. In internationally accepted terms a baby is said to be of low birth weight if his weight at birth is under 5 lbs, 8 ozs. or 2500 grms. But this figure is too high for less developed countries, where full term babies are generally small. A realistic figure for our country would be under 4 lbs. 8 ozs. (2100 gram).

You will now realize that there are two low birth weight types of babies – *i.e.* depending on the period of gestation (*i.e.* the period during which you are carrying him in your womb). Again, by international usage, two terms are used to describe the two types of low-birth-weight babies:

1. A baby born after the 37th week of gestation is called a small-for-dates baby.

2. A baby born before the 37th week of gestation is called a pre-term baby.

You might wonder why babies should be born either earlier than expected, or even if born at the correct time, be lighter in weight than normal. There are several reasons

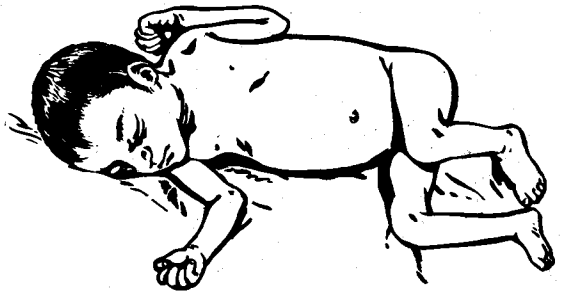

Fig. 9
A baby of low birth weight.

for this and a few are worth mentioning. You have already read that the maximum weight gain occurs in the last 3 months (12 weeks) of pregnancy. If therefore your diet is inadequate in good quality or sufficient quantity due to poverty or any other reason, your baby runs the risk of being malnourished and therefore of low–birth-weight. Mothers who smoke are liable to produce small babies. Certain diseases like malaria and some kidney diseases, also cause early births. One af the commonest causes is a condition where the mother's legs get swollen, her blood pressure rises and she passes albumin in the urine. Of course if she is under careful surveillance by her doctor, he can treat this condition succesfully.

Twins and triplets are often of low-birth-weight. Sometimes, however, due to problems in the womb itself, and in the placenta (the organ by which the baby is attached to the mother's womb, and through which he is nourished) she might have a small baby. The important point for her to remember is to go to her doctor or the nearest hospital when she thinks she has become pregnant.

Low-birth-weight babies have problems not usually encountered in normal ones. This is why the large hospitals have some special care units for such infants.

The main problems are :–

1. Establishment of normal breathing at birth.
2. Maintenance of the body temperature,
3. Feeding.
4. Prevention of infections which incidentally occur very easily.

If therefore a mother is suspicious that a low-birth-weight baby is going to be born, she must enter hospital fro the delivery.

Establishment of Normal Breathing

The earlier the baby is born, the more immature are his lungs and breathing appratus. Infants born before the 35th week tend to have serious difficulties of breathing, and need more oxygen than the normal mother's blood can supply. Such babies therefore cannot be looked after at home and have to be admitted for the first few days at least, to a hospital. The baby who cannot breathe easily will have irregular jerky movements of his chest, in-drawing of the spaces between his ribs, grunting or whimpering and a greyish colour to his lips, and must be admitted urgently to hospital.

Maintenance of body temperature

Low-birth-weight babies, especially pre-term babies, have great difficulty in maintaining their correct body and internal temperatures. This is because the temperature regulating centre in the brain is poorly developed and as there is very little fat beneath the skin. Even in hot climates such babies do get very cold. The correct temperature should be 98.6 of in the axilla or 99.4 in the rectum. Very immature babies need special incubators which unfortunately are rare in our country, except in the large teaching maternity hospitals. A fair degree of warmth may be ensured by wrapping the baby snug in cotton garments Fig. 10 then in a light *small* flannelette blanket, placing him in a padded box or cot in which a 40 watt electric light bulb can be kept lit. Hot water in leak proof bottles, either rubber or glass are useful though not very efficacious and dangerous when too hot. Under no circumstances must the baby be left naked. If left to survive without artificial heating aids, the infant starts using his own tissues to produce heat and as this is very inadequate he will soon give up the flght to live, become cold, wax like and stiff, and is likely to die.

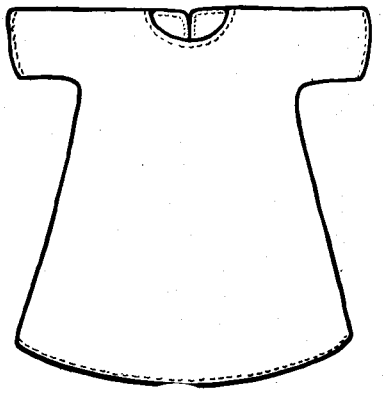

Fig. 10
Garments for Low birth Weight baby.

FEEDING

Breast milk is the best milk and is vital for the low-birth-weight baby, as it contains anti-germ factors which the baby lacks. If the baby is active and alert, feeding is no problem, as he will suck like a bigger baby. However, it may be necessary to wake the baby every three hours for his feeds, quite unlike full term, normal weight babies, who need never be woken up for feeds.

If the baby can suck, but does not suck long enough, it is necessary to express the milk into a small boiled cup and feed it with a boiled pipette, (ink filler) drop by drop, after he has stopped sucking at the breast.

If the baby has been born long before his expected date of birth, he need not be fed for the first 6-8 hours after birth. If the baby is born within two weeks of the expected date and is small-for dates, feeding must be commenced during the first two hours of birth, as he can get a dangerous lowering of his blood sugar, which may have permanent serious ill-effects like mental retardation, fits or even be fatal. A baby with a low blood sugar, usually is very jittery, not restful, has trembling movements of arms and legs, sweating and sometimes develops a greyish colour of his lips and skin, eventually becomes very still and lifeless with slow gasps. This condition may occur anytime in the first day or two and may be prevented by early and frequent feeding. Dissolve one heaped teaspoon of glucose in three ounces of boiled, cooled water. Give about four teaspoons of this solution, two hours after birth. followed by breast milk in a further two hours. If for some reason the breast-milk is not available, consult youri doctor.

The smaller the baby the more frequent should his feeds be. Generally 8-9 feeds a day would be needed. Night feeds are necessary in the early days, till the infant shows signs of thriving;

Only two methods of feeding are feasible in a home- active sucking of breast or bottle, and pipette feeding when the baby can swallow, even though his sucking is poor: Use a pipette found in multivitamin drops bottle or an ink filler, Boil the pipette before use. There is a cigar–shaped feeding bottle called the Belcroy feeder – Fig. 11 which also can be used. This feeding bottle has two long teats, one of which goes into the baby's mouth and the other is used for squeezing out the milk, when sucking movements are made thus aiding the flow of milk. A low birth weight baby will take a much longer time to take a feed, and great patience is needed.

If the baby does not suck at all, it is necessary to hospitalise both baby and mother. The following table is a guide to the quantity of milk required, per feed by the infant of low-birth-weight of 2 lbs, 2½ lb. 3 lb. 4 lb. and 4½ lbs. Feeds are given 3 hourly, during the first 14 days of life. Remember to give more if the infant sucks greedily, and is unsatisfied with this quantity.

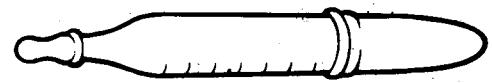

Fig. 11
Belcroy feeder

TABLE VII

Age of Infant	WEIGHT OF INFANT						Total 24 hr. feeding in ozs. per lb. body weight
	2 lbs.	2½ lbs.	3 lbs.	3½ lbs.	4 lbs.	4½ lbs.	
1st day	2 tea spns.	2 tea spns.	3 tea spns.	3 tea spns.	4 tea spns.	4 tea spns.	1 oz. per lb.
2nd ,,	3 ,,	3 ,,	4 ,,	4 ,,	6 ,,	6 ,,	1¼ ,,
3rd ,,	3 ,,	4 ,,	5 ,,	6 ,,	7 ,,	8 ,,	1½ ,,
4th ,,	4 ,,	5 ,,	6 ,,	7 ,,	8 ,,	9 ,,	2 ,,
5th ,,	5 ,,	7 ,,	8 ,,	9 ,,	10 ,,	12 ,,	2½ ,,
6th ,,	5 ,,	7 ,,	8 ,,	9 ,,	10 ,,	12 ,,	2½ ,,
7th ,,	5 ,,	7 ,,	8 ,,	9 ,,	10 ,,	12 ,,	2½ ,,
8th ,,	6 ,,	8 ,,	9 ,,	11 ,,	12 ,,	14 ,,	3 ,,
9th ,,	6 ,,	8 ,,	9 ,,	11 ,,	12 ,,	14 ,,	3 ,,
10th ,,	6 ,,	8 ,,	9 ,,	11 ,,	12 ,,	14 ,,	3 ,,
11th ,,	6 ,,	8 ,,	9 ,,	11 ,,	12 ,,	14 ,,	3 ,,
12th ,,	7 ,,	9 ,,	10 ,,	12 ,,	13 ,,	15 ,,	3¼ ,,
13th ,,	7 ,,	9 ,,	10 ,,	12 ,,	13 ,,	15 ,,	3¼ ,,
14th ,,	7 ,,	9 ,,	10 ,,	12 ,,	13 ,,	15 ,,	3¼ ,,

Vitamins

Vitamin K 1 mg. should be administered to all low birth – weight infants at birth, because of the risk of bleeding or jaundice. Other vitamins including vitamin D 400–800 1.U, vitamin C 40–50 mgm, vitamin A 1000 units, vitamin E 15-20 and vitamin B including B12 and folie acid are given daily in a suitable multi-vitamin preparation, commencing at two weeks with one drop and increasing to 5 drops daily.

Iron.

4 mgm. per kg. body weight (i.e, 10 - 15 mgm) Iron drops should also be given orally from the 14th day after birth.

Prevention of Infections :

Low birth weight babies have a very poor resis-tance to infection and may develop life-threatening disorders easily. These infections may originate from germs which have got into the mothers womb or birth passage, from other babies, from visitors, from the floor, linen and immediate environment of the baby, Meticulous precautions are therefore needed and scrupulous cleanliness is vital. Before handling the baby or his clothes, linen or utensils, the mother must wash her hands with soap and water. Frequent hand-washing is the best safeguard for the prevention of infections. When nursing your baby cover your clothes with a clean sheet used only for the purpose. Do not kiss the baby excessively and do not allow others too close a contact with the infant. If you have a cold wear a mask or a handkerchief to cover your nose and mouth, as this is where the germs lie. Do not handle or carry the baby too much before he begins to thrive because of the risk of infection.

The great majority of pre-term babies need hospital care. The low – birth weight baby who can be looked after at home is generally a small-for-dates baby. This difference is mainly due to the latter baby's ability to suck. Never hesitate to ask a doctor about a baby's behaviour. In the event of any danger signs like lethargy, failure to suck, whimpering, greyish colour, abnormal movements, a yellow discolouration of the body, loose stools, vomiting of feeds, puffiness of the stomach, difficult breathing and fever, consult a doctor at once.

Supplemeutary foods

Once the baby starts putting on weight, he can have the same schedule of diet as normal babies.

(See chapter V.)

Baths

No Baths should be attempted until the baby is 5-6 lbs In the frst month or two, cleaning the baby with a warm, moist clothe is all that is necessary, A good practice is to use a little warm olive – oil or oily baby cream between the buttocks, in the groin, arm-pit or axilla, neck and where there are creases. Do not let baby lie on a soiled napkin for too long.

CHAPTER VII

Common Disorders and Emergencies in Infancy and Childhood

Physical Defects e.g round shoulders, sagging abdominal muscles and flat feet would result in poor posture. These should be corrected before the child enters school. Eye sight and hearing should be tested. The child should be examined periodically by a doctor – teeth, eyes, ears, nose, throat, heart lungs, urine, stools weight be recorded.

ABDOMINAL DISORDERS

Vomiting - It seems to be a common belief among Sri Lankan mothers that every newborn healthy infant must have one or more good vomits; otherwise there is something wrong with the baby! Nothing is further from the truth. There are many causes for vomiting.

I (*a*) The commonest in breastfed infants is that the baby is held with the neck bent forwards instead of backwards at the breast, (See page 10, Fig. 1). (*b*) The second; that he is being fed too long at each breast and is sucking air instead of milk, if he is kept at each breast for longer than 8–10 minutes.

II (*a*) In bottlefeds the causes are that either the teat hole is too small or too big. The latter is often due to "old age" of the teat. Teats must be renewed frequently; once every 3 weeks or so, when they don't balloon out properly and appear squeezed or flattened, (*b*) vomiting may be caused by the milk mixture being too rich (*i,e.* not enough water) or too thin (*i.e.* too much water or a wrong brand of milk being given to small infants *e.g.*, Full cream milks (over 26% fat in powder form or over 3.2% when diluted as directed on the tin). Whatever the reason, do not change from breast to bottle or from one kind of artificial milk to another without a doctor's advice. *Hardly ever does a mother's milk disagree with her own child* and this is the first reason that mothers grandmothers and ignorant persons will think of. **Do not follow their advice.** You will be wiser to consult a doctor who has experience and training in child welfare work especially at clinics which are now being run all over the country. If on the breast, think of the two faults mentioned above and correct them if present, If bottle fed, change your teat and adjust the size as mentioned in an earlier chapter (page 31).

III Commonly vomiting may be the first symptom of an infection. either gastro–intestinal, respiratory, urinary or one of the acute specific fevers. The other symptoms and signs such as diarrhoea, fever, cough or cold, rashes etc., will soon follow. Always consult a doctor immediately and do not wait *three days* before you do so.

IV Uncommonly, especially in a very young infant vomiting may be caused by some obstruction in the gastro–intestinal tract which may need surgical treatment in a hospital. If an infant's vomit comes out like a fountain and is thrown some distance away from him, and he continues to do this after each feed, and if observed carefully at this time, a "lump" about the size of a marble or less appears on the right upper part of his abdomen, you must take him to hospital at once. If the surgeon advises an operation, do not hesitate to follow his advice and do not try unorthodox medical treatment and waste precious time; for the earlier an operation is done, the greater are the chances of recovery and the later, the greater the chances of death !

If a newborn infant chokes immediately after a feed and goes blue in the face or stops breathing, do not continue to feed him, stop immediately and hold him upside down by his ankles and gently pat his back, Take him to a hospital as soon as possible.

Diarrhoea is much more common in bottlefed infants, but it is common in breastfed infants too in Sri Lanka.

This in our opinion is due commonly to two reasons. 1. The pernicious habit of giving coriander water with sugar added just before administering it to the child. This is usually given instead of plain boiled water to allay thirst in infants. We think that it is bad because it may lead to unnecessary sweating etc., and therefore to an unnecessary loss of weight. If coriander must needs be given (e.g., a cold) then add the sugar first before boiling it and thereby assure yourself that it is not a source of infection to the child.

2. Even more commonly than the first is the lack of cleanliness on the part of the mother. Infections may be caused by dirty fingers, dirty clothes or dirty nipples. The mother's nipples and fingers must be washed with *SOAP* and water and dried using a clean cloth before and after each feed. Clothes should be changed daily and a mother should have a bath every day during the period of lactation. In a bottle-fed, the causes of infection are due to dirty bottles and teats, unboiled water and dirty sugar added to the milk powder as is so often done in Sri Lanka and quite unnecessarily too. *Cleanliness is cheaper than dirtiness* (For cleaning bottles etc., see page 23).

Treatment – Whatever the cause of the diarrhoea, please do not try *home remedies* before going to a doctor. *On no account* must you give a purgative like castor oil, milk of magnesia, or gall nut. This is a sure method of making

the infant much worse and probably ensuring eventual hospitalisation. If blood and mucus are present in the stool. if numerous copious, watery, offensive stools are passed, it means a severe infection. A newborn infant may not have any rise of temperature with a severe infection but vomiting, mild, moderate or severe is usually associated with the diarrhoea. The fewer home remedies you use the better it is. For thirst and hunger, give light tea or pori water with a *pinch of salt* and a *little sugar*. These should be added to the tea or pori if possible, *before boiling*; thirdly, half a teaspoonful of kitchen salt, a heaped tablespoonful of sugar to two tumblerfuls of water and the whole mixture then boiled may be given in sips throughout the day till you get to a doctor. This quantity is sufficient for 24 hours for a 8 lb. baby.

Whatever the fluid administered to an infant, he needs *at least* 2½ ozs. (= approximately 3 household tablespoonfuls) of it per lb. body weight per 24 hours. If your infant is normal in size then at one month he would be between 7-8 lbs. in weight and each month after that he should increase in weight. (See pge 19.) Many infants increase more than that if adequately fed but these are the minimum rates of healthy growth for this country. Therefore a child of three months needs 25 - 30 ozs. a day.

The greatest and commonest danger to life in infantile diarrhoea lies in *DEHYDRATION*. Any intelligent mother can diagnose this. It only means the loss of water and certain salts from the body. Its signs and symptoms are

(1) a depressed fontanelle, (a well in the midline of the skull about 2–3" behind the hair line). This is usually open in all normal infants till 18–24 months of age and is flush with the surface of the scalp. If you feel a depression like a small hole when you palpate it with your fingers, it is usually due to loss of water and salt from the infant. This usually means that the child needs more water and salts.

(2) If you pick up with your fingers the skin on the front of the belly of a normal infant and let it go immediately, it will at once return to its normal situation due to its elasticity. Where there is loss of water and salts, there is a loss of elasticity, and the skin will *not* return *immediately* to its original situation but will be delayed for a few seconds before doing so. This you can see as a ridge on the surface of the belly where the skin has been pinched and let go.

(3) The eyes may be sunken and dull and in a severe degree of dehydration covered with mucus or purulent discharge.

(4) The child will be restless and irritable, or in very severe cases, stuporose or even comatose.

(5) He may protrude his tongue, which is coated, at frequent intervals.

(6) His cry will be weak and wailing when the dehydration is severe.

(7) His urine will be diminished, or even absent for many hours.

(8) His temperature and pulse are raised until the terminal stages when the former will be subnormal and the latter very slow or very rapid and irregular.

(9) His breathing will be rapid and shallow or sometimes rapid and deep.

If two or more of these signs appear the child must be *hospitalised* and salines given by vein or other route. This annot be done safely and efficiently in *most homes*. If breast fed, do not change to a bottle but restart breastfeeding with short but frequent feeds. At the same time you may gradually prolong the intervals between feeds, to the normal, **You must always express with your fingers all the milk left in the breast after the infant has finished sucking.** The more you empty it the better your breast will refill and the longer you

will be able to breastfeed your baby. In bottlefed infants start with more dilute and smaller quantities of the usual milk. **It is important to remember that fat is as essential for the growth of an infant as protein.** This is so often forgotten, not only by mothers but also by others.

Colic–In very young infants particularly in the newborn period this is frequently caused by "*wind*" which is the result of air–swallowing, and that is due to the wrong position of the baby at the breast (*e.g.*, neck flexed forward Fig. 1 or too prolonged a feed. In a bottlefed, it may be caused by faulty teats or more commonly even by the child being fed in a horizontal position, lying flat in bed with the bottle held in a semi–upright position and milk not fully covering the lower end of the bottle. As a result the infant gets not milk only, but a mixture of air and milk. If he cannot bring this up, it may frequently cause flatulence and colic. *Never bottle feed a baby except on your lap with the head erect and neck extended backwards as* for breast feeding; also after each feed burp the infant (see page 10, Fig.3). An older infant (*i.e.*, at three months of age) may suffer from a condition which has been termed "three month colic." The cause of this is not quite clear. It is probably due to an overactive gut which may eventully settle down. Here the child may go red in the face and keep up his bouts of crying for hours on end with writhing of his limbs which are sometimes accompanied by a little vomiting. There may also be constipation or a normal stool. The abdomen is also slightly distended. This condition is difficult to treat, but what the mother can do till the doctor arrives is to feed the child with a very hot bland drink *e. g.*, plain tea or corriander water with no sugar added. Put a hot water bottle on the abdomen (page 104) and give the child a sleeping tablet (*e.g.*, aspirin ½ tablet). A hot water enema often helps especially if there has been a history of constipation. *On no condition*

give a purgative. The child should be fed in the upright position and if he is on a bottle. thickening the feed with Casilan (Glaxo) often helps. Dill water may relieve the colic, but mothers should not worry too much over this symptom as it may often occur in normal healthy nfants.

Constipation – First of all we must be clear what we mean by constipation. It has nothing to do with the number of stools passed, it has everything to do with the character of the stools. *A healthy breasfed infant need not have a daily evacuation of bowels.* This is very important to remember. So often mothers worry unnecessarily because there is nothing on the diaper or in the chamber pot for 24 hours and what is worse they then proceed to drug their infants. *Do not give magnesia or other saline preparations to infants except under doctor's orders. A daily or twice weekly dose of saline or magnesia is the worst kind of treatment for infantile constipation.* If a baby is constipated he will twist and turn and writhe before defaecation. He will go red in the face. He will cry and after great effort will pass a hard, dry, light-coloured stool which sometimes crumbles to dust on passage. *If a child has even one normal looking stool twice a week without any of the above – mentioned symptoms, it is not constipation.* This means that the child is absorbing more water from his gut than other infants and only needs extra fluids like fruit juices and plain water.

The less drugs you use in constipation the better, and any used should be more laxative than purgative.

Our general lines of treatment are:—

1. Increase the quantity of water and fruit juices given. The latter may be sweetened with clean sugar. *If sugar must need be bought from a boutique, please add water to it aud boil it before you give it to an infant or child.* We have so often seen bowel disoders caused by dirty sugar in this country that we must emphasise this point with all the strength at our command. You must give these extra fluids at frequent intervals between feeds throughout the day.
2. If the baby is on a low fat (*e.g.*, Half-cream or Tropical cream) change to full-cream.
3. Add boiling water to dried fruits like dates. figs, prunes or raisins. Mash all the pulp, strain this through muslin and give the water to drink. A teaspoonful or two may be given once, twice or more often during the day according to the needs of the infant.
4. Mashed fruit like papaw, mango and sour plantain may be given to any infant over three months of age.

If these measures do not relieve the child and only then give (1) Liquid paraffin or olive oil, a teaspoonful once or twice a week but not every day, or (2) Dulcolax is harmless and is usually prescribed as a rectal suppositary to very young infants, but tablets may be given orally to older children, (3) Occasionally and very occasionally, especially if the stools are offensive and hard, may a purgative like caster oil, (a teaspoonful) or magnesia be administered. Never give these preparations at frequent intervals or as a routine.

Flatulence – This is often associated with constipation and/or colic and is caused by the same factors. An enema with soap and 5-10 ozs. of water, or 20-30 drops of turpentine mixed well with the above is a usful remedy. There should be no floating droplets on the surface of the water and vaseline should be smeared round the anus to prevent irritation. Alternatively a turpentine stupe may be applied on the abdomen.

Procedure – Sprinkle 1 drachm (= a teaspoonful) of oil of turpentine on a piece of flannel, fold this over and pour boiling water over it; unfold it, allow the steam to escape and apply it on the abdomen. After 10-15 minutes, remove it

and apply a little vaseline and cover the skin with a piece of lint and a towel or sheet round the abdomen.

Loss of appetite is uncommon in a young infant except in association with fevers. It is commonest perhaps in this country in infants who are underfed due to inadequate breast or artificial milk. If an infant is fed at too short intervals or is forced to feed, he may very often lose his appetite.

In a child it is most often due to the fact that the same diet is offered to him day after day, week after week, month after month. A change in the preparation of the same kind of food from day to day is most important. Milk should be flavoured after one year with weak tea or coffee or even soda water. It may be given with cocoa, or in the form of custards, boiled or baked puddings, or ice cream after 18 months. Instead of expensive breakfast foods, pori with milk and sugar may help in restoring a lost appetite. If a child is given more than 24 ozs. of milk (*i.e.*, 2¼ tumblerfuls) in 24 hours he has not much room left for taking any other kind of food.

Mothers should also remember that the rate of gain in weight after one year is very much less than earlier. A child's appetite may vary from meal to meal, or from day to day, and the refusal of one whole meal is no reason for drugging a child, or punishing him, or rushing him to the doctor. When a new baby arrives the older child may become difficult about feeding. That is one way in which he shows his fear of losing his mother's love and interest in him. The mother must be careful to show him as much affection or even more than before.

During periods of excitement or anger, a child may refuse his food. Parents should never quarrel at meal times or even at other times in the presence of the bearing of their children. Rushing a meal before school or play often leads to a lot of the food being left on the plate; unattractive meals badly served, cold food, absence of companionship,

resentment against the person serving or giving him the food, boredom with his surroundings may all cause loss or appetite.

Many older children of even well-to-do families rush to school on empty stomachs. This is detrimental to their health and the parents must not allow this, A child cannot concentrate on his work on an emply stomach.

Whatever you do, do not punish a child for not eating his food. If done, it will be the beginning of the end of the love he bears the parent, father or mother. Have patience, exercise tact, practise bribery and corruption, entice him with brightly coloured custards or puddings, tell him he can have more of anything he really likes (*e.g.*, chocolate etc.) if he first finishes his ration of what he dislikes (*e.g.*, rice or fish etc.). If he has a fixed aversion to any particular article of diet (*e.g.*, dhal beans, liver ete.) avoid this for some time, and reintroduce it in a disguised manner a few weeks later. If he still refuses it, stop giving it for some time.

Finally remember, the more sleep a child has at the correct times, the better usually his appetite (see para on sleep, page 32). *Excess of appetite* for solids is usually due to sheer greed which should be controlled tactfully by the parents. Rarely it may be due to parasites such as round or tape worm.

Perverted appetite (Pica) *i.e.* eating of sand, stones paper, chalk, lime of the walls etc., is due to hook or round worms and anaemia most commonly in this country. It is associated with other signs and symptoms such as sleeping on the stomach, teeth grinding, nail biting and excessive thirst. Less commonly it may be due to an unconscious desire on the part of the child to supply some deficiency in his diet, *e.g.*, iron, calcium, vitamin B_{12} etc. It is also present in mentally deficient children. If the habit persists after treatment for worms and anaemia consult a paediatrician about it.

Excessive thirst may be due to fevers. Rarely it may be due to diabetes in children. High external (fever) temperature, excessive activity and sweating may also cause this symptom. If it persists for long and especially if it is associated with the passage of too much urine, a doctor must be consulted.

Lumps in the abdomen may be commonly due to constipation or massive infestation with round worms. In these cases the previous history of the child will help. In both conditions there is not much pain nor tenderness. The lumps also move from place to place at frequent intervals.

Lumps that need surgical interference are usually fixed and are sometimes tender. However any lump in the abdomen, which persists for more than a few hours is painful, tender and is fixed in position, needs investigation and treatment in hospital and not at the hands of unqualified " quacks ".

Hicconghs: Many babies have attacks of hiccoughs. This is nothing to be alarmed; A drink of warm water or a change of position may stop them, but usually hiccoughs stop themselves in a few minutes.

RESPIRATORY EMERGENCIES

Aspiration of milk – This may occur in newborn babies commonly, particularly in small-for-dates infants. These latter should not be fed at the breast, but the milk should be expressed and given to the infant through a pipette or through a catheter which is passed into the stomach. This can only be done by a trained nurse or midwife or the mother could be taught the technique by one of them. Aspiration of milk is also caused by feeding infants through a bottle while they are lying flat in bed. The symptoms are sudden attacksof choking and coughing immediately after feeds, accompanied by blueness of the face, lips, palms and soles or fingernails. The infant should be immediately held by the ankles and turned upside down and patted gently on the back. He should also be shown to a doctor immediately after an attack who will prescribe any further treatment that is necessary.

Cold – A cold in a newborn infant may manifest itself first of all by vomiting, sneezing and restlessness, a few hours before the nasal discharge actually appears. The child should be clad warmly and hot bland fluids including coriander water may be given. A cold in a new-born infant must not be treated lightly as it may be the harbinger of a more grave illness. A cough in a newborn infant is always a symptom of serious import and a doctor must be immediately consulted.

Cough - A cough may be of slight, or of very serious import at all ages. Any patient with a cough of over a fortnight's duration should be X-rayed, and have a tuberculin test done. No one with a cough and cold should be allowed to handle an infant.

A child with a dry cough and a cold, without a temperature should be confined to bed, given his normal food and kept warm with plenty of hot drinks like coriander, tea, orange juice etc. The mother should see that the bowels are regular; a cough syrup may help the patient at this stage.

Later when the cough gets less, he may be allowed out of bed and given plenty of fruit and fruit juice. If the cough persists a doctor should be consulted.

A short, sharp, dry cough at intervals with tearing from the eyes, which are red and a copious discharge Irom the nose with sneezing, often means measles or german measles

or some other acute specific fever of childhood. If there is rapid breathing dulness or sleepinoss, redness and a very high temperature, beware of pneumonia, See a doctor immdiately.

A night cough at intervals but each bout continuing for some minutes and ending with vomiting is often an early sign of whooping cough. The characteristic whoop will not appear until the second week. The child should be segregated from other children, even though he may not have any fever. All the children should be taken to the doctor at once.

Wheezing occurs only during expiration. It is very commonly present in bronchitis of infants and children and more commonly than not, it *is not a symptom of asthma at this age*. A very simple method of relieving the symptom to some extent till the doctor's arrival is to moisten four sheets in cold water and hang them on all four sides and on the top of the cot. If the wheezing is at all severe the infant will need active medical treatment. Asthma in an elder child also needs a doctor.

Stridor occurs during both inspiration and expiration. Stridor may be present from birth and continue for months. Ii is in this instance of no serious significance often, and will disappear spontaneously about the age of one year. Rarely it may be due to some congenital abnormality of the heart, blood vessels or respiratory tract.

If it starts later, then it is of more serious import and a doctor must be consulted. Stridor also may be a sign of laryngeal diphtheria, or laryngitis due to other organisms. If it leads to severe restlessness, indrawing of the lower part of the chest wall during inspiration, a bluness of colour with coldness of the extremities etc., *an operation is immediately necessary in order to save life.*

Rapid breathing may be a sign of lung or heart disease or as mentioned earlier, it may be a sign of dehydration due to diarrhoea or vomiting. In any case if the mother notices that the infant's breathing is more rapid than usual, it is imperative that a doctor be consulted at once. A change in the colour of the lips, nails, palms, and soles particularly if they become blue, has the same significance as the above.

SWEATING

A normal healthy newborn infant should not sweat. If he does. there is something seriously wrong with him. Consult your doctor.

Laryngitis – Sometimes a cold may affect the larynx (voice box). Baby's breathing may be harsh and difficult, his voice may be hoarse, he may be restless and even frightened. Consult your doctor, as these infections can be very serious. Keep the room warm and get steam in to the air by boiling a kettle of water,

Bronchitis and Pneumonia–Either of these conplications may follow a cold, measles, whooping cough or other infections. If the baby is running a temperature, if it remains high and if the cough lasts several days, and his breathing is rapid and difficult call your doctor immediately.

NERVOUS DISORDERS

Convulsions – This is one of the most serious emergencies that any mother has to face. DON'T LOSE YOUR NERVE, DON'T POUR ANYTHING DOWN a child's throat while he is convulsing. In an unconscious patient whatever is put into the mouth is very likely to go down the wind-pipe and into the lung rather than down the gullet and into the stomach. Place the handle of a spoon between

the teeth and turn, it at right angles to prevent the child biting his tongue. DO NOT try to restrain any involuntary movements of the limbs lips or eyes. Keep the head cool with ice if available; if not, with vinegar and water. If you can give an enema, do so with soap and warm water. If the temperature is very high, cold or iced water may be used.

If the temperature has not come down in half an hour, you may pack the patient in ice. *Cold pack* – Cold or iced water may be used. Lumps of ice are added to the water in which the towels are wrung out! and ice is wrapped within the wet towels and rubbed over the patient.

Procedure – Remove the shirt, leaving the patient covered with a blanket. Turn him on to a side and roll the mackintosh covered by another blanket under him. Apply the cold compress or ice bag to the head, wring the towels or draw sheets out in the cold water, arrange them closely over the back and front of the trunk and have separate towels round the limbs. As these become warm replace them one at a time. The treatment lasts about 20 minutes during which time the towels are changed five or six times. Test the temperature and if it has not come down 1–2 degrees, continue the above procedure for another 5–10 minutes, remove the pack, dry the patient quickly, attend to the toilet of the back and put on a clean shirt. The temperature is recorded half an hour later.

Alternatively, you may give the patient *an iced water enema.* You start with warm water and gradually add pieces of ice into the water until it is quite cold. DO NOT START THE ENEMA WITH ICED WATER. That is dangerous. This is all you can do till the doctor arrives.

If unfortunately the patient must go to the doctor and not vice versa, all you can do on the journey, if the child is

convulsing, is to keep the child on a side with a spoon wrapped in a clean piece of cloth or handkerchief in his mouth. Keep the child's head flat and turned to a side, cool with Eau-de-cologne or vinegar and water with or without ice or an ice bag, and cover the child's body with a blanket. Keep the clothing round the neck loosened. *Whatever you do, please do not give the infant ginger juice or anything else to drink while he is unconscious or convulsing.* If the child vomits during a fit, turn him immediately on the side and put his head on a lower level than his body and *do not put your finger in his mouth*, as you may be tempted to do so.

Fainting – Very small children or infants do not suffer from fainting attacks, but these may occur not uncommonly, especially in older girls or thin, tall boys with poor muscles.

Put the child down flat on the floor or let her sit down and bend her head and body forwards till the former rests on her knees. Splash some cold water on the face. Her eyelids may flicker. Don't be alarmed. The chiid may become very pale. Do not give her anything by mouth until she has regained consciousness.

Sleep – The amount of sleep an infant or child needs varies to a large extent, not only from child to child but also in the same child at different times. It depends on the quantity of food consumed, the hour of consumption, the amount of exercise, and any emotional or mental strain that he has experienced.

Most infans need 18-21 hours of sleep during the first 6 months of life. In the second half of the first year he needs a couple of hours less and by two years of age he does not usually require more than 14 hours. At 6 years, he needs 12 hours, but children up to 15–16 years of age need at least 10 hours of sleep.

It is most important for young children especially in the preschool age period to go to bed about 7 p.m. We find that many middle class Sri Lankan parents allow these toddlers up till 9-10 p.m., or even later, and then wonder why their children are nervous, irritable, fatigued and off their food. Parents must make a habit of putting these young children to bed within *an hour* of their last meal which should not be later than 6-6.30 p.m. If this is insisted on from the start, there is no difficulty. Parents must be firm but not stern about this. They must be understanding and tactful. There should not ensue the usual battle between mother and child if the former knows her job and does it well.

Excessive Sleepiness - may be normal in a new born infant, but if it is prolonged beyond this period and interferes with feeding, your doctor should be seen. A change from the usual sleep rhythm to one of excess, or lack of it, is usually of serious significance in an older infant or child and must not be ignored. It may be the start of a grave illness.

Lack of sleep or Insomnia – In a *small infant* it is often a sign of mental deficiency, if the lack of sleep starts early and is continued day after day for a long time. Temporary periods of insomnia may be caused by too much warmth or lack of it, a draught, wet linen, hunger, thirst, itching, insects like mosquitoes or bugs, too much noise (loud radio) or too much light or complete darkness, or a full stomach due to a heavy meal just before bedtime.

In an *older child (i e.*, over 18 months of age) it is often psychological in origin, *i.e.*, over-excitement, too many parties, overstrain at school, cannot keep up with his work, fear of the teacher or in an older child, fear or jealousy of one parent or sibling, feeling of insecurity in the home due to parents' quarrels etc. There may be a fear of the dark, shadows cast on the wall by the moon may lead to wakefulness due to the imagination running riot. Lastly, it may be due to too much food, or an indigestible meal just before bedtime.

Treatment – A warm glass of milk and a warm bath at bedtime are sometimes helpful in engendering sleep. If the child is afraid of the dark give him a bed light. If he is old enough, let him read himself to sleep; you must then return to him *in* 15–20 minutes and put out the reading light.

It may be necessary for one of the parents to be with the child till he falls asleep. Tell him or read him a story or sing to him.

Sleep Walking is usually psychological in origin. Keep a wet gunny or a rug by the child's bed. An soon as he places his foot on it, he will wake up. It is important to keep a child who is sleep walking on the ground floor because of the danger of his walking through doors and large windows on the upper floors.

Nightmares and Night terrors are frightening to the parents. If they occur only very occasionally they may be the result of overeating or over excitement on the previous day. If they are repeated very frequently a doctor must be consulted as they may sometimes mean a disorder of the mind or brain. When the child screams in fright, he should be wakened by one of his parents or someone in whom he has confidence and trust, reassured about his security. He should be asked to relate his dream. Enquiries should be made about his playmates, whether he is being bullied by anyone etc. What are his reactions to his teachers and schoolmates? Is he frightened of bright lights, traffic noises, animals etc.?

Day terrors are of more serious significance than night terrors. Sometimes the two are associated. A doctor must always be consulted.

Weakness of limbs – If a child cannot move one limb as well as his opposite one, it is of serious import and a doctor must be consulted. Do not rub oils or ointments; they are useless. If the limbs feel lifeless or on the other hand they feel stiff and one cannot be bent as easily as the other, these are often signs and symptoms of serious disorders and a doctor must be seen without delay. *A mentally defective infant* may not be recognised by the parents as such until a doctor does so. If a young infant refuses to suck his mother's nipple or a teat, if he sleeps very badly and cries incessantly, mental deficiency is suspected. He should be shown to a doctor. If a child looks like a Mongolian *e.g.*, Chinese, Japanese or Malay and with no possibility of such an inheritance he is probably a MONGOL which is a type of mental deficiency and usually occurs in the last of a large family with an elderly mother or more rarely with an elderly father or the former may have suffered from some illness like German measles in early pregnancy.

If the skull looks too small or too big in relation to the body and there is a delay in the development and progress of the child, mental deficiency must be suspected. In order to do this you must have some knowledge of the normal milestones *i.e.*, the order and time of each step in the motor mental development of the child.

Milestones – A newborn child cannot see very well, but can recognize his mother by her voice. He only sees a black and white blur, like someone in a mist. He only recognises his mother by sight, smiles and vocalizes after 4–8 weeks of life. He will turn over on to his abdomen and raise his head and control his hands in the 3rd, 4th month. He will roll and sit up with help in the 5th month and will sit up alone a month later. About the same time he will grasp an object like a pencil if this is held in front of him. He will cruise on his belly in the sixth–seventh month; 3–4 weeks

ater he will crawl on his knees and elbows and is able to lgrasp objects. Many infants do not cruise or crawl at all. If they do, then the next step, standing, is delayed for a while. Normally, a child should stand with help in the 8th–9th month, and without help in the 10th–11th month.

He will walk with help about the 10th–11th month and without it at about a year. He wills tart teething about the 6th–7th month, but there is a great variation in the time of onset of dentition. We have seen normal, healthy infants who have not cut their first teeth till they were 18 months old! The commonest cause of delayed dentition is under-feeding or semi–starvation. He should have his full set of 20 milk teeth by the age of 2–3 years. A child will say his first intelligible words about the 6th–8th month. They are usually "Amma" "Thartha" or sometimes even in ultra-nationalistic Sinhalese, "Dada". By the age of 2 years he should make short sentences of 2–3 words "I am hungry", "I am wet", "I want to go out". If milestones are unusually delayed, consult your doctor.

Speech disorders – Failure to develop speech by 2½ years, usually but not always, connotes mental deficiency, deafness or severe psychological disturbances. An over-protected, molly–coddled child may develop his speech much later than one who has had a normal healthy upbringing. A non–communicative mother who does not talk with her baby. is often responsible for delayed speech in her off-spring. Handle and play with your baby, from the first time you see him. Pick him up get to know what he feels like, dress him, undress him and talk to him. A failure to walk, stand. sit or turn at the correct time may mean undernutrition, some psychological or organic nervous disease, mental deficiency, or over–protection.

Stammering is the commonest speech disorder. It may commence as early as 2 years or as late as 10 years

It is much commoner in boys than in girls. It is associated often with difficulties in reading, writing or spelling. The earlier stammering begins, the more difficult will the cure be. In the very young no attention should be drawn or paid to this disorder. In the older child any causes for anxiety in the home or school should be inquired into, and removed as much as possible. The parents and other children should be told never to scold, imitate or ridicule the child. In school, it will be more difficult to prevent ridicule by other children, but a sympathetic, understanding teacher can do much to help the sufferer by not subjecting him to the experience of answering questions in front of the whole class, but doing so privately and alone. by himself or with another stammerer. He should not be asked to recite nor read aloud in the presence of the class till he has shown a considerable measure of improvement.

Any physical defects such as tonsils and adenoids, projecting teeth etc., should be attended to. These children tire more easity than the normal, and their day should be shorter. They should go to sleep earlier and wake later than the rest of the family. If they dislike noise or excitement etc., they should be protected from these adverse factors as much as possible. They should be seen by a psychiatrist or attend a child guidance clinic. After the former's advice has been sought and only with her guidance should the child be made to recite or sing to his mother only at first; then in the presence of his father too, then with the rest of the household as an audience. When he has gained sufficient confidence in himself and only then, should he be asked to recite and sing in school.

Left **handedness** is dependent on a large number of inherited as well as of environmental factors. Its importance in reading and writing difficulties has been over emphasised. Do not try to correct a left handed child to a right handed one.

Thumb sucking is a sign of hunger or of a lack of a feeling of security. The child wants more attention and love shown to him. If his feeds are hurried, or he is a quick and greedy feeder, the meals must be more prolonged in time. If thumb sucking is only occasionally practised the child's attention may be diverted. If it is persistent, it is impossible to break the habit. Mechanical restraints such as elbow splints or thumb covers, or the use of bitter substances like quinine etc., on the thumb should not be used. In time the child will cure himself. Persistent thumb sucking may give rise to undue projection of the upper dentition.

Nail-biting is a sign of nervousness and excitement or tenseness. Cut the nails short, teach the child the value of keeping his nails and fingers clean both by example as well as by precept. On no account should a child be scolded in order to break this habit. Try to find out the cause of the tenseness or nervounsness and correct that.

Masturbation is common in a child and not of serious significance. The child will be seen to be moving his thighs inwards and outwards rapidly or rubbing them against each other. At the same time he may be red in the face and show an expression of great enjoyment. After some time, sweat breaks out, the face goes pale and the child lies back exhausted. Masturbation may be due to local irritation, collection of smegma, which is a white substance within the foreskin. The latter must be pulled back completely behind the ring near the tip of the penis and the exposed parts washed and cleaned well. If it is not possible to retract the foreskin fully, a doctor must be consulted. He may be able to do so, or in case of failure, a circumcision may be indicated; In female children, keep the genital parts clean and free of mucous secretions. If the latter persist and stain the undercloth es consult your doctor. All you need do is to place a triangula r shaped pillow between the child's thighs to prevent these being rubbed against each other. In either sex see that the

underclothing and diapers are not tight and uncomfortable. Do not tie knots on nappies to keep them in place. Always pin them down with safety pins. *Masturbation whether in the infant or older child never leads to mental or nervous disorders.* Often it is the other way round. A nervous or mentally unbalanced state of mind may be responsible for masturbation. Do not scold a child when he is handling unduly his or her private parts in public or private. Take him aside quietly and tell him kindly that it is not "nice" and examine the parts yourself to see whether they are clean and free from any skin disease *e.g.*, ringworm, eczema or any excess of smegma or other secretion. The habit may also be caused by threadworms or constipation. Do not impart a sense of guilt to the child and do not call it an unpardonable sin. The vast majority of people have practised masturbation at sometime or other; only if it is excessive, *i.e.*, practised daily or more often, must active steps be taken to break the habit. It is important that the child be found other outlets for the expression of his emotions. Infantile musturbation ceases in early childhood but may be followed by the use of the hand in place of the thigh rubbing Masturbation is commonest at or near puberty and is commoner in boys than in girls. At this time they usually pick up the habit from older companions.

The general health of the child should be attended to. He should have plenty of outdoor exercise and should be discouraged from *doing nothing* for long periods. Watch his reading and see that he does not indulge in novels with a lot of sex interest; the same applies to the cinema. Never punish him for the habit but tell him kindly that it is important that he learns to control the habit. Divert his mind and energy to other activities *e.g.*, reading. painting, drawing, plasticine modelling, mecano sets. cycling, games, swimming etc. but do not let him be aware that these activities are deliberately planned by you in order to divert his attention.

If he suspects this, he will find ways and means to indulge still more secretly is this habit. The confidence of the child should be won and he must be told that it does not lead to lunacy.

Habit spasms or Tics – These are irregular, sudden movements of isolated groups of muscles – *e.g.*, sudden and frequent blinking or winking, twitching of the lips, raising one or both shoulders suddenly and at frequent intervals, raising the arm and feeling the head or face often. wrinkling of the forehead or jerky movement of the head. Most often tics are due to emotional disturbance. Do not pressurize the child to do better at school or at games. *Do not drive him beyond his capabilities. Tics are often due to ambition on the part of the parent.*

Development of self-confidence in the child is important, his attention to the tic should be avoided as far as possible. Ignore it at all times in company. He should not be punished nor ridiculed for it. The other children in the family should be warned against teasing him. The school teacher should be approached by the parent and told that the child should not be punished nor scolded and also asked for help in protecting him as far as possible from the taunts and gibes of his schoolmates.

DISORDERS OF THE BLOOD

Jaundice or Yellowness of the skin is physiological if it occurs 24 hours or later after birth and fades within 10-14 days. The smaller and more premature the infant, the more frequent the jaundice. It needs no treatment. *If an infant is born jaundiced or he becomes jaundiced within 24 hours of birth. it is of very serious import and he must be taken immediately, to a hospital, as it may mean a blood (R.H.) incompatibility.*

If a mother loses one or more infants with jaundice ln the neonatal (= one month) periods, then she should consult an obstetrician as soon as she suspects another pregnancy and frequently during the antenatal period in the succeeding pregnancies. It may be necessary to enter hospital and stay there for several weeks before the infant is born. Jaundice may also be the result of sepsis arising from the umbilicus. the respiratory, or the gastro-intestinal system or it may be due to a virus infection of the liver, or as a result of some congenital abnormality of the bile ducts. In any of the above circumstances a doctor must be consulted.

Anaemia is most commonly seen in the 2nd year or later. Uncommonly it may occur after 6 months except in a premature infant when it is very frequent, unless he has been treated earlier against its occurrence. The commonest cause of anaemia in young children is iron deficiency due to the fact that milk and milk only is fed to our infants for one year or longer without the addition of other supplements such as green leaves, meat or fish etc. Treatment consists in including these articles in normal infant feeding in the second six months of the first year, and to get an iron-containing mixture or tablet prescribed by a doctor.

The second commonest cause in Sri Lanka is hookworm infection. The diagnosis is made by examination of the stool for ova. It is commonest in the schoolgoing age. You must get the child treated by a doctor without delay. In the preschool age period, severe round worm infection. which is the commonest intestinal parasite at this age, may cause a moderate degree of anaemia. It is never as severe in degree as that found in hookworm disease. With modern cheap non-toxic drugs available, there is no excuse for any child to be made to suffer from the severe effects of round worm infestation in this country. Round worm infestation is an indication of unhygenic or unhealthy living without proper care being devoted ↩ o ;-

1. Preventing the child picking up things from the floor and putting them in his mouth.
2. Protecting cooked food from flies by covering it with a clean newspaper till it is consumed.
3. Washing the child's hands with soap and water before he eats his food.
4. Preventing indiscriminate pollution of the soil by children, or if this is impossible, burying the faeces under 6″ of soil over it, or emptying it into a latrine bucket.
5. Washing the child's hands well with soap and water after toilet. In any case of anaemia, do not delay seeing a doctor as soon as possible. The longer you delay, the more difficult the treatment. Nothing in our experience is sadder (except perhaps preventable blindness where "Quack" treatment has been continued too long) than the death of a child who is brought to hospital too late for the treatment of anaemia. It still happens too often, much too often.

Bleeding If a child *bleeds* from his nose, mouth, rectum or urethra, a doctor must be seen at once, however, small the amount of blood passed.

If a child gets several red patches on his skin or small pin-point spots of bleeding, it is usually a sign of some serious blood condition; therefore a doctor must be consulted.

DISORDERS OF THE URINARY SYSTEM

If a child passes much less urine than normally or passes it less frequently or has pain or straining on passage, then it means some disease of the kidney or bladder. The

may often be associated with swelling of the face and feet and fever. Do not delay in seeking treatment from a doctor, by trying home remedies like *polkudupala* which act when stones are the cause of pain or urination. Stones are rarely found in children.

The slightest puffiness round the eyes or swelling of the belly should arouse suspicion about the kidneys and a doctor must be consulted at once.

Bed-wetting is normal till about the age of four years. Many children achieve dryness much earlier but if it persists beyond that, or if it recommences later after a period of dryness, the child should be taken to a child specialist. An occasional wetting of the bed at infrequent intervals is of no significance and should be ignored. The most common causes of persistent bed-wetting are psychogenic *i.e.*, some difficulty in the parent-child relationship, worry, anxiety, fear or jealousy. Less commonly it may be due to thread-worms, a very acid urine containing uric acid or urate crystals, or a congenital abnormality of the urinary system. If the child wets himself during the day only, or during the night as well as by day, the cause is due to some organic lesion which must be investigated in an adequately equipped and staffed hospital.

Whatever you do, do not punish, scold or ridicule the child or discuss the difficulty in his presence. These measures will only worsen the condition.

The simple methods of treatment which you can follow at home which may allay the disorder are :-

1. Do not give the child any water or other fluid to drink after 4 p.m.
2. Let him sit in a tub of cold water up to his hips for 5-10 minutes. just before he goes to bed.

3. If he sleeps on a mattress, remove it and let him sleep on a mat over a hard, wooden surface or on a woven (rattan) bottom.
4. Get the child to go to the toilet immediately before bedtime each night.
5. I f the child wets himself at any particular hour, *e.g.* midnight, he should be wakened and lifted on to a pot about 15 minutes before that hour each night. Alternately an alarm clock should be set to ring at this time and the child should take himself to the toilet.
6. Encourage his efforts to be dry, by giving him rewards for each dry night, *e.g.*, chocolate, sweets, books, boating, picnics visit to the cinema etc. The longer the periods of dryness, the greater should be the price of the reward. Reward him a star for each dry night and a reward for 6 or more.
7. Never send a bed-wetter to a boarding school till he has been cured and remained cured for at least one year.
8. One of the parents should attempt to discover the nature of the mental worry, difficulty or strain which is causing the continuance of the condition.
9. The parents should not display their state of anxiety or worry over this distressing disorder in the presence of the child.
10. Drugs like Lognail, have been found successful by some authorities.

FEVERS

There are many causes of fever and these cannot all be enumerated here. An infant's temperature should always

be tested in the rectum, an older child's under the tongue. Temperatures recorded in the armpit may be as much as 2-3 degrees out unless the armpit has been wiped dry. the bulb placed correctly and held tightly in the armpit and kept there for at least 3 minutes; any person's temperature may vary a degree or so at different times of the day. It may record 97.4°F in the morning and 99.2°F after a meal. Do not rush to the thermometer every time a child feels slightly warmer than normal. It is far wiser to watch his behaviour. Has he taken the usual amount of food, does he play and run about normally, is his sleep undisturbed etc.? If these habits are undisturbed, do not worry, *do not starve the child* and do not drug him with aspirin, antibiotics or sulfa preparations.

If, however, he is off his food or colour, is irritable or apathetic, put him to bed and watch him. If he vomits, and this is a common presenting sign in any febrile illness in a child, give him an aspirin tablet, for an infant $\frac{1}{4}-\frac{1}{2}$ tablet. Keep him on a bland liquid diet for a few hours unless he desires his food.

If your child is subject to febrile convulsions, he must be given an anti-convulsant like Phenobarbitone (gr. $\frac{1}{4}-\frac{1}{2}$) or Diazepan vallium 1-2 mg immediately the temperature rises above 100°F. If it rises above 102°F, he should have an ice bag on his head and a tepid sponge. Aspirin may also be administered.

Tepid Sponge - Procedure: Remove the bed clothes from the upper part of the patient's body, leaving him covered with a large bath towel, blanket or a sheet. Turn him on to his side and roll a mackintosh covered by a sheet, large bath towel or blanket under him. Apply a cold compress (a towel soaked in cold water) to his head. Use a tepid water sponge and first wet and then dry the face with a

towel. Place a wet sponge or towel in each armpit and after 2-3 minutes re-wet and transfer it to the groin, repeating this process alternately. Sponge the arms. first the limb away from you and then the other; next the chest, abdomen, lastly the lower limbs taking about 3 minutes for each limb. Then turn the patient on to his right side and sponge it. Sponging should last 20-30 minutes, change the water 2 or 3 times during the sponge. When finished the patient should be dried, the damp clothes and the mackintosh removed and the toilet of the back attended to. Finally a fresh, clean shirt should be put on and the child covered with a dry sheet or blanket.

If the temperature rises over 105°F, an iced sponge or ice pack should be given, (see page 85) or alternately an iced water enema (see page 85). A temperature of 105°F or over, is of very serious import and needs immediate medical attention.

It is not necessary to starve during fevers except in typhoid fever, kidney disease and vomiting from any cause. In all other fevers, including pneumonia, if the child clamours for solid food, it should be given him.

There is no special virtue in replacing rice by bread. They are equally good, but do not force them or an unwilling, sick child. This is important, but do not continue to starve a child in convalescence. He has a ravenous appetite during this period and *this must be satisfied.*

In exanthematous fevers *e.g.*, measles, chicken-pox, etc., the rash does not appear for 3-7 days after the onset of the fever. Occasionally, it may be delayed beyond it but the temperature will remain raised.

In any case of fever, the patient must be segregated from other children as much as possible from the start of the illness. In diphtheria, which occurs most commonly after one year

of age, the first signs are fever, vomiting, difficulty of swallowing, enlarged glands below the jaw, or after a few hours of fever the patient may gradually become more and more breathless and have noisy breathing (Stridor, see page 83). In either case of the child must see a doctor immediately. The longer you delay, the greater are your chances of losing him and the earlier, adequate and efficient treatment is afforded him, the more complete and earlier is his recovery.

Glands – Enlarged lymph glands in the neck are very common in Sri Lanka. If they are at the back of the neck examine the head for nits, lice or sores. These condition must be treated, If they are down the sides of the neck or in the angle of the jaw, the mouth and throat must be examined to exclude stomatitis, tonsillitis, pharyngiti mumps etc. These must be adequately treated by a compe tent doctor. As mentioned in the preceding paragraph diphtheria is often a fatal disease if the diagnosis is misse early and it will invariably be missed unless the throat i examined by a competent person.

Enlarged glands in the absence of the above may be a sign of early primary tuberculosis and can be very easily cured now with modern anti-tuberculous drugs. Do not waste time by consulting quacks. Lastly, enlarged glands may be a sign of a severe lymphatic or blood disease. This can only be diagnosed in a modern hospital with adequate pathological facilities.

SPECIAL SENSES

Foreign Bodies in the Eye – With your index finger over it, try to push the lower eyelid under the upper. Do this 3 or 4 times in rapid succession. If this does not succeed in dislodging the foreign body a corner of a clean handkerchief may be used to do so after everting the lower eyelid first. If it is not there, evert the upper eyelid pushing it over the lower and turning it over your finger. If these measures do not succeed, the eye must be washed out as detailed in the next paragraph.

Eyes – A blind infant never smilingly recognises his mother except when the latter speaks. He will not follow with his eyes a toy or a finger or a bright light (torch) moved about in front of his face and from side to side. He should be seen by an eye specialist without undue delay. A discharge from the eyes soon after birth may often lead to blindness but this is very easily prevented if efficient and adequate treatment is immediately instituted by a doctor, nurse or a trained midwife (*e.g.* Penicilin or Silver Nitrate $\frac{1}{10,000}$ drops instilled into the eyes). A discharge from the eyes late in infancy or childhood is usually due to an infection with a virus or bacterium and needs treatment from a doctor. All that you may do at home is to segregate the child from others, give him a separate towel. bed, and feeding utensils and wash his eyes out with warm Boric acid lotion. ($\frac{1}{2}$ level teaspoonful or Boric powder dissolved in $2\frac{1}{2}$ tablespoonfuls of hot water.)

Procedure – Keep the child flat on his back with his head projecting beyond the end of the bed and at a lower level than the body. Wash your hands well with soap and water. Take a clean piece of cotton wool and soak it in the warm (not hot) boric lotion and hold it about 2"–3" above each eye and let the lotion drop into it. If the eyelids are stuck, these should first be separated by gently swabbing with the boric lotion and the eye should be washed as above with the eyelids pulled back with your fingers. *Use a separate piece of cotton wool for each eye.* This must be done several times a day but do not delay to seek adequate and skilled medical attention. Always swab the eye from the outer canthus (corner) into the inner.

EARLY SIGNS OF VITAMIN A AND B_2 DEFICIENCIES IN THE EYE

1. **A dry white of the eye.** The tears are diminished and if the eye is looked at from the side of the face and not from the front, near an open window in bright sunlight, the white of the eye may show a wrinkled surface like waves unlike the smooth, flat surface of the white of the normal eye. A later change is a brown discolouration of the white of the eye especially in the outer half or the lower margin of the eyeball. A later change still is a small whitish lump like chunam or chalk near the junction between the black and the white portions of the eye. This may be present on one or both eyes. There may also be reddening or congestion of the small blood vessels of the white of the eye.

Lastly, the black portion (cornea) of the eye may show softening (indentation) or later on, an opacity and ulceration. This is very dangerous as it is so often, too often, the cause of blindness in children and is entirely preventable. The tragedy is that it could have been so easily prevented in the child if cod or shark liver oil and green vegetables had been included in his diet from infancy. This shocking form of blindness is most commonly seen in children between 1-4 years of age who have been semi-starved after 6 months because their mothers have had inadequate supplies of breast milk or they have not given them sufficient quantities of other milk or they have ceased to give them any milk at all once their breasts got empty and the children were fed on fruit vegetables like ash plantains, melons, and snake gourd for months on end. *It cannot be emphasised too strongly that all growing infants and children need adequate quantities of milk till they are 15 years of age and it is very harmful to deprive them of milk at 1–2 years as is so often done even now, especially in our rural areas.* Still our village mothers believe that milk with rice breeds worm. This is impossible unless the milk has been contaminated by round worm eggs. If this is so, then it is due to the dirty fingers, vessels or bottles used in the preparation and supply of the milk. *Nothing in our experience has been more tragic than to have seen these poor children go blind because of the ignorance of their parents.* Lastly, if any of the above eye signs are seen, *do not allow any one* except a qualified doctor to instil drops into the child's eye. So often have we seen child with severely congested and infected eyes brought to the hospital too late because some unqualified person has prescribed a daily dose of some irritating substanee to be dropped into the eye. This is utterly criminal and so callous. If all these children are brought to hospital or to a qualified doctor early, *none of them need go blind.* All of them can be cured with a few injections or eyedrops of Vitamin A.

Earache - If a child gets an earache and this is one of the most painful and distressing symptoms in infancy and childhood, whatever you do, *do not syringe the ear* and do not insert earspoons or instill warm, dirty oil into the ear.

An infant will toss his head from side to side on the pillow. If he is old enough he will put his hand over the painful ear, he will cry incessantly; he may vomit and will probably have a raised temperature. What you can do till a doctor sees him is to put a hot water bottle over his ear or a hot boric fomentation. Give him ½ tablet of aspirin.

Hot water bottles - If you have no rubber hot water bottle. take any large-sized, narrow-mouthed bottle, *e.g.*, whisky bottle. Add an equal part of tap water to boiling water and fill the bottle with it; see that it is tighly corked and turn it upside down to make sure that it does not leak. Then wrap it round with flannel or a thick towel and place it over the ear. This must be refilled every hour or so.

Hot Fomentation – Take a piece of boric or plain lint, about 6" square, fold it and wrap it in a small face towel, flannel or any thick material and pour boiling water over the

towel over a basin or a large bowl. Then take it out and wring it as completely dry as possible. Take the lint out of the towel, and shake it to remove any excess steam to avoid scalds, double fold it and apply it over the ear and cover it with a piece of cotton wool and bandage it fairly tight. This must be replaced every two hours or so.

Do not fail to see a doctor as soon as possible because a severe earache may be a sign sometimes of a more serious illness.

Ear discharge - All ear discharges must be treated by a qualified doctor. A chronic ear discharge should never be neglected as it so often leads to deafness. In the presence of a discharge do not syringe the ear without a doctor's orders or instructions and do not insert earspoons, or instil any drops.

Foreign Bodies in the ears – Pour in a few drops of clean warm oil into the ear. If it is an insect it will float to the surface. If the object is tightly wedged in the ear, you must consult a doctor.

Nasal discharge - A bilateral nasal discharge unless it contains blood usually means rhinitis (a cold) or rhinorrhoea (catarrh). If it is a cold the child may feel warm and go off his food for a day or two. It is best to keep him in bed or at least confined to his room for a day or two. On no account should he be sent to school at or soon after the commencement of a cold. He should have plenty of hot bland drinks, *e.g.*, hot coriander with ginger certainly eases the discomfort of a stuffy nose or plain hot tea or conje etc. *Do not starve him even if he has a raised temperature.* If the child wishes to eat his rice and curry, let him do so. There is no special virtue in substituting bread for rice.

Catarrh or Rhinorrhoea is manifested by bouts of sneezing which occur each morning followed by a flow of thin watery nasal discharge. The attack may last a few minntes or hours depending on its severity. If it is prolonged, the best treatment is to give him ½ – 1 tablet of any antihistamine (*e.g.*, piriton, phenargon, antistine etc,,); most of these preparations are now available in syrup form. They, unfortunately, have side reactions such as excessive sleepiness and depression which may last for a day or even longer.

More than one dose a day should not be given without the advice of a doctor. Chronic and long – continued Rhinorrhoea may result in a deviated septum of the nose, nasal polyps, enlarged turbinates etc. If the attacks continue for more than a few months, an ear nose and throat specialist should be consulted. A chronic purulent *bilateral nasal discharge* may less commonly mean infection of the sinuses or antrum. These conditions must also be treated by a specialist.

A unilateral nasal discharge is usually purulent and often blood–stained. It may commonly mean one of two conditions *(a) foreign body* such as a piece of paper, cotton wool, vegetable seed or small pebble in the nose. This may have been introduced by the child himself or by one of his playmates. Some children take a special delight in introducing these articles into other childrens' dark passages. Both the donor and receiver then forget about it.

If a foreign body is seen soon after its introduction into the nose, get the child to sneeze by holding some snuff or pepper powder near his nostrils. If this manoeuvre does not succeed, the patient must be taken to a doctor.

If a foreign body has lain unnoticed for several days or weeks, a unilateral purulent discharge commences and continues unceasingly unless adequate treatment has been taken.

(*b*) *Nasal Diphtheria*. The first sign of this disorder may be the appearance of a bloody, purulent discharge from one nostril which may be swollen and just within it a thick, yellowish, dirty slough may be seen. The child should be taken immediately to a hospital where an injection of anti-diphtheritic serum will be given to him.

Nose bleed - For nose bleed keep the patient quiet and seated with the head tilted forward. Pinch his nose, so that the patient breathes through the mouth. If the bleeding does not stop, get medical aid.

Swallowing a fish bone – The foreign substance may cause great pain and discomport to a child. If it is the former try to get the child to swallow a ball of rice or bread once or twice. If it is a round object like a stone and has led to a fit of coughing or choking, hold the child upside down by his ankles and pat him gently on his back. If this does not succeed he must be rushed immediately to the nearest hospital or doctor;

ACCIDENTS

Never let a baby play with any small objects, *e,g.*, buttons, seeds etc. Keep scissors, knives, forks, pencils matches and all other sharp things out of baby's reach:

Poisons - The commonest form of poisoning which occurs in Sri Lanka is, in our experience, due to Kerosene oil which the child drinks by accident. He will cry and his breath will smell of Kerosene oil. He may feel sick or vomit and suffer with abdominal pain be-fore he is taken to hospital. The mother may give him white of egg beaten up with water, but he must be taken immediately for further treatment. If he vomits, his head should be turned to a side and placed

on a lower level than the rest of his body. The other common forms of poisoning are due to (1) *Manioc* which has not been cleaned or cooked property or (2) Castor seeds or poisonous berries which the child often gathers and eats on his way to or from school. In either case do not delay taking the child to hospital. All you may do at home is to give him a drink of salt and water and get him to vomit the poison out as much as possible. Wash your hands with soap and water and tickle the child's throat with your finger. This will help him to vomit.

The third commonest form of poisoning in children is due to eating (or drinking) everdoses of some special medicine meant for adults. *e.g*;, Ferrous sulphate, oral contraceptives; barbiturates etc. The child may vomit or get drowsy, semi-conscious or completely unconscious.

He should not be given anything by mouth if he is semi–or unconscious. If he is just drowsy, give him some beaten up white of egg in water and rush him to hospital.

Every moment's delay is filled with danger to the life of the child.

Parents must be exceptionally careful with drugs pres-cribed for them, to keep them under lock and key or well-out-of reach and out-of-sight of children, because, if swallowed, they may even cause death.

Burns are much too common in this country due to (1) the careless use of the dangerous bottle lamp or (2) scalding by hot water, tea, etc. (3) open fire places for cooking. In any case the only treatment the mother may undertake is to clean and cover the burnt area with a freshly washed cloth, sheet or towel. If the burn is at all extensive or deep. it needs treatment in a hospital; an extensive burn is often fatal. If only a finger or too or other small area is burnt, skin or blisters unbroken, immerse

area in cold water, or apply cold or wet towels. Clean any dirt off with a dry, clean cloth, apply some phenergan cream and cover the burn loosely with a clean piece of linen or a handkerchief. For a finger enclose the whole hand in this and tie this loosely round the wrist. It is most important to keep bottle lamps or other small lamps or candles away from the reach of young children. They should be placed at such a height that children cannot get at them. So many tragedies can be avoided if parents use a little more discretion and imagination and realise the fascination a bright flame has for a small child. Keep matches away from children. For chemical burns, immerse area in water for 5 minutes, cover with clean cloth and take him to the doctor.

Dress on Fire. Roll the child up as quickly as possible in any thick material handy. (blanket, mug ete.) to extinguish flames. Wrap him warm and take him to the nearest hospital. Do not apply oils etc., as this will interfere with subsequent treatment. Never break, blisters, clean severe burns or remove charred clothing.

Drowning – As soon as you get the child out of water, try to turn him upside down; if he is small enough get hold of his ankles and lift them in the air as high as possible. By these means you attempt to empty his lungs of as much water as possible. Next lay him on his stomach with his head to a side and at a lower level than the rest of his body. Lie down beside him or place him on a table or bed with his mouth opposite your own. If possible place one layer of a clean cloth *(e.g.,* a handkerchief*)* between your lips and the child's and then take a deep breath and blow it in gently into the child's mouh:t Remove your lips a little distance from his, take another deep breath and repeat the above procedure

This should be repeated about 15 times a minute for at least 5–10 minutes. At the end of this period someone else should take your place. In no circumstances, should mouth to mouth breathing be terminated till a doctor has pronounced life extinct. This he can only do by listening to his chest and assuring himself that the heart has ceased to beat. **It is foolish to rush these children to hospital to be placed in an iron lung which is useless in these cases.** An iron lung is meant for cases of long continued paralysis such as poliomyelitis and not for cases of drowning. So many children who are now dead, might still be living if artificial respiration had been continued longer and they had not been rushed *prematurely* to a machine like an iron lung.

We repeat, artificial respiration must be commenced immediately after rescue and continued till a doctor has pronounced that the heart has ceased to beat and that life is extinct.

It must be continued in relays and not stopped however dead the child may appear to be.

Animal Bites – *E.g.*, dog, cat or rat. Immediately cleanse the wound with soap and water and/or follow with any strong disinfectant that is available in the house, *e.g.*, Tincture iodine, dettol or condys' crystal dissolved in hot water. The child should be taken to a doctor for an antitetanus injection and advice sought regarding the necessity for a course of anti-rabies vaccine. The cat or the dog must be kept under observation for at least 2 weeks. If any signs of rabies occur in the animal, a full course of 21 anti–rabies vaccine injections should be given without delay.

Insect Stings – *E.g.*. bee, wasp, etc. Remove the sting immediately with your fingers and apply a little Scrubb's ammonia or liquid ammonia fortis or phenergan cream to the spot or the juice of a broken papaw leaf stem.

Snake Bites - Immediately tie a handkerchief tightly round the limb and above (i.e., nearer to the heart) the wound. Take any sharp knife, wash it well with soap and water and pass it briskly over a flame two or three times and then incise the skin widely over the wound across the fang marks. If you have them in the house, apply condy's crystals to the wound. Take him immediately to a doctors Alternatively after ligaturing the limb take some matches, place them on the wound and set them alight. There must be no delay in doing this!

Falls, Sprains and Fractures - If a child has had a fall, complains of pain, and there is swelling appiy ice packs or cold compresses. Keep him still and get medical advice. Your doctor will be able to tell whether it is a sprain or a fracture. If you have to remove the child to the hospital, support the injured limb and move him carefully.

Cuts and Scratches – Clean thoroughly any minor cuts and scratches, using soap and water or hydrogen peroxide. Apply rectified spirits and dust with cicatrin powder. Cover it with sterile gauze and bandage. Leave the dressing as long as you can. Look at the cut once a day to make sure that infection is not starting. Sometimes it may be necessary to give a tetanus toxoid injection. If the bleeding from the cut is heavy, press hard with a clean wad of cloth, directly over the wound, until the bleeding stops. If the bleeding is severe, continue pressure and send for the doctor, or take him to the nearest hospital.

Skin Rashes – Some skin rashes accompany such disorders as chicken pox, measles. They usually disappear as soon as the disease is cured.

Diaper Rash – A baby may suffer from a diaper rash or inflammation of the diaper area, due to improper drying after a bath or to powder which has caked in the crease

Usually it is due to ammonia which it produced by bacteria working on the urine in the diaper. Urine and bowel movements are irritating to the skin, especially when they stay in contact with the skin for a long time,

If the baby has a sensitive skin, soak the soiled diapers in a solution of 1 tablespoon vinegar to 3 quarts water for 3 minutes. Then wash them well with soap, rinse and dry them in the sun. Iron them with a hot iron before use. To prevent diaper rash, change the diapers frequently. Swab the diaper area with clean water at each diaper change. Dry him well and apply the ointment prescribed by your doctor. Do not use water proof panties on a baby with a diaper rash. Leave the diaper area completely uncovered for a few hours each day. Put a couple of diapers under him to soak up any urine or stools.

If the rash gets worse, or if it does not get better in 24 to 48 hours you should get medical advice.

Prickly Heat – In warm weather or when a baby is overdressed, a rash of tiny pin-point blisters may break out on the baby's face, or the parts of the body most heavily clothed. Apply a little milk of magnesia twice a day, Dress him more lightly and change him often enough.

Eczema–Is usually due to an allergy, to something in his food or the materialof his clothes. Usually someone else has an allergic disorder and may cause reactions as eczema, hay fever or asthma. A rash may appear anywhere on the baby's body except the palms of his hands and the soles of his feet It is extremely itchy and makes the baby restless and often irritable. Consult your doctor to deteet cause of the allergy. Eczema does tend to disappear in later years.

Impetigo – Is an inflammation of the skin which is contagious. Small blisters appear filled with fluid, then break and form a scale. Unless it is treated at once, it will

sdread quickly, particularly if it is scratched. The baby's towels and clothes should be boiled and the mother should wash her hands well using soap and water, before and after handling the baby. There are very effective medicines available. Get the advice of your doctor.

Scabis – (the itch) This is a skin infection caused by mites boring into the skin. A fine, red itchy rash appears, often between the fingers and the toes, on the wrists, ankles and buttocks. It is extremely itchy and irritating and often contracted from someone else. Very often infections form where the skin has been scratched raw. Boil all clothes, towels and all linen used for the baby. Consult your doctor.

Thrush – Is due to an infeetion of the lining of the mouth. It appears as white spots on the inside of the cheeks, on the gums and on the tongue. Sterilize the feeding bottle and teats well, if they are used for the baby. Do not give the baby a 'DUMMY'. Your doctor will advise you regarding the treatment of thrush.

Nutritional diseases – Scurvy This is very rare today and is due to lack of Vitamin C in the diet, resulting in tenderness of the long bones of the body or spongeness of the gums.

Rickets – Is a preventable disease like scurvy. A child with rickets may have bow legs, knock kness, a pigeon chest or other deformities which may become permanent. It is due to lack of Vitamin D, which babies should get from the age of one week.

Nutritional Deficiencies

The most common disorder seen in our children (1–3 years or more) is Marasmus or wasting. This is due to a lack of calories *i.e.* instead of getting approximately 1000 calories or so they get only 500–600 calories per day. As a result these children are undersized and underweight and they have poor ekel-like limb muscles. Their ribs can be seen and counted without palpation, their skin and hair are dry. Their cheeks and eye sockets are sunken, their eyelashes are long; sparse and irregular. They are suffering from semi–starvation. There is no oedema (Swelling) but they are very quiet and apathetic – they whine but hardly cry, they may have poor appetites and suffer often from constipation or diarrhoea. Their livers may be slightly or moderately enlarged! Rarely, the children may exibit the disorder known as Kwashiorkor which is manifested by gross oedema of the limbs, and sometimes by ascites or fluid in the abdomen, as well as skin rashes-mosaic skin with alternate hyper – or hypopigmented patches especially on the buttocks, back of knees, elbows, ankles and other pressure points. The hair may lose its pigment and may exhibit patches of blonde yellowish hair or rarely grey.

These are cases of acute protein energy malnutrition and have to be hospitalised and given adequate calories and proteins in their diet. On the other hand much more commonly seen – nearly 40% of our preschool population suffer from chronic malnutrition which is exhibited by a marked deficiency in weight. A slight degree of mental backwardness – hence a delay in milestones. These cases should be shown to a child specialist for advice. These children need correct dieting, but they need not be hospitalized if the required diet can be provided by the parents at home.

CHAPTER VIII

The Why and the How of Family Planning

The Meaning of Family Planning

All sensible people with a more or less fixed income plan their expenditure monthly or weekly and try to keep this latter below the former – You know the old saying.

Income	Rs.	100/-	
Expenditure	Rs.	90/-	.....Happiness
Income	Rs.	90/-	
Expenditdre	Rs.	100/-	.....Misery

Similarly, a young married couple should plan how many children they wish to have to complete their family, so that each child may have all his essential needs - food, clothing, shelter, education and recreation adequately met.

However, with galloping inflation raising the cost of living it will be difficult for a parent to estimate the number of children he can provide with the above basic needs. If the average income in taken at Rs. 500/- per month at the present cost of living. it is difficult to see how a family can exist comfortably, if it contains more than 2 adults and one child. The state recommends that no family should have more than two children. If these two are of the same sex most parents will wish to have one more of the opposite sex – expecially a boy.

The other important point about family planning is that there should be a decent interval between successive births. On present knowledge this should not be less than three years for the average mother especially in the lower income

bracket. Lactation, especially if prolonged to two years or more, will tend to suppress ovulation (maturity of the female egg) and thereby reduce fertility, but the nursing mother should have an additional quantity of food during this period – about two coconut spoonfuls of boiled rice and 1–2 more tablespoonfuls of cooked dhal or green gram plus ½ tumbler of milk a day, This will probably help the mother to prolong the duration of lactation, as well as increase the quantity of milk secreted by her. Another aspect of family planning is giving advice to those couples who have no children,

Why you should plan your family: During pregnancy the foetus (*i.e.* the unborn baby) is a parasite on ihe mother. He extracts all the nutritional factors required for his own growth and development from her – the proteins, fats, calories, minerals and vitamins.

This occurs specially during the last three months of pregnancy and during lactation, so that the mother at the end of the pregnancy and/or lactation is in a worse nutritional state than in her pre-pregnant period unless she gets additional milk, pulses, beans and eereals etc. Many of our poor mothers however do not get these extra rations during pregnancy. On the contrary, her diet is cut down especially in protein – containing foods, by her relatives and unqualified advisors who teach her that by restricting her diet to watery vegetables like gourds and some fruit vegetables, and avoiding all animal protein foods she will be able to produce a smaller baby with much less trouble for herself at delivery. This is true but it also means that she will bring forth a low birth-weight or small for-dates infant who is much more likely to get seriously ill with any infection and sometimes even die of it, whereas a healthy, strong, better–weighted baby will resist these infections, or even if he gets ill, will almost always survive such disasters.

If before the end of lactation 9 – 24 months or more the mother gets pregnant again, it means that there will be a further draining away of her slender resources and with lactation to follow the poor mother will commonly suffer from the *Maternal Depletion Syndrome* i.e. She feels tired, fatigued, exhausted; she is anaemic, wasted with shrivelled abdomen and wrinkled, dry skin, lack-lustre eyes and dry hair. If the mother does not get pregnant after her last child for 3 years or more, she has time to build up and improve her health and nutritional status. This is the most important reason for spacing.

The other reasons are:—

(1) No mother unless she has extraneous help could look after more than 1 or two (2 at the most) pre–school children at the same time. Consider the situation in a poor home in the suburbs of our cities or in the rural areas. If the mother has 3–4 pre–school children and possibly one infant–all bawling, fighting, running about. (defaecating and urinating all over the place) playing on the road side or near the drains or a well-while she has to cook the food, wash the clothes and bathe the kids, clean especially the younger ones after their toilet, see that they wash their hands before consuming their food and after, and what have you? Can one person do all these chores effectively, adequately, conscientiously for more than 1 or 2 children? The third reason has been mentioned already. For those on an inadequate, though fixed, income it is imperative that they restrict their offspring to 1 or 2.

For example, if a family has an income of Rs. 600/– per month, we have said already this will be just sufficient for one child plus his parents. If they have 2 or more children the amount of food consumed by 1 child and parents will have to be shared by 2–3 children and parents. The most likely groups to suffer from malnutrition or

undernutrition will be the younger-aged children and the mother. In our culture the father who is the wage-earner gets the best of whatever there is available, so the mother and the children get less than what they deserve or need.

Besides these primary reasons there are others.

Schooling – Even today there is a dearth of schools and teachers in this country. At our present rate of population growth we need 2 schools to hold 1000 pupils each to be opened *every week* in order to keep up with our natural rate of growth.

No country in the world – not even USA could afford this degree of school expansion.

Communication - Buses, trains and other modes of travel to work, school, business etc. will have to expand many-fold in order to keep up with our growing numbers.

Housing - We are at present short of nearly a million houses in spite of the tremendous effort in this regard by the government. We are short of timber, cement and other building materials.

Timber – It is said that our forest resources have decreased to less than 10% from over 20% in 10 years. We will soon have to find some other means to cook our meals, because we are just raping our forests and leaving the land naked and ashamed.

Employment – Even with our very rapid industrial and irrigation projects we still have about ¾ million unemployed. Each year we have to find new jobs for approximately 150,000 youths - male and female. We have a very limited area of uncultivated but cultivable land left. We have a lack of capital for continued rapid industrialization and our local market is too small for many industries. Hence we

have to find export markets against fierce, virulent and often unfair competition from more experienced and sophisticated countries. Our people must develop a national consciousness and see the urgent necessity for population control as well as family planning. If every married couple were to plan for 2 children, whether 2 boys, 2 girls or a boy and a girl and resorted to sterilisation after that, we could lick this population problem within a reasonable period of time.

Some Western countries like USA and others have reached ZPG rate (*i.e.* Zero Population Growth). This should be our aim too – to get there by 2025 AD. It could be done if everyone of us put our shoulders to the wheel and persuade our relations, friends and acquaintances to do likewise.

The how of Family Planning - Almost all Government Hospitals and Clinics are now equipped and staffed to give family planning advice and supplies. Sterilisation procedures are available at base and provincial hospitals, besides at the FPASL (Family Planning Association of Sri Lanka) head-quarters at Bullers Lane, Colombo 7, and the Sevena Clinic (Community Development Services) at Cotta Road, Colombo 8. Many private general practitioners have also been trained in the various techniques of family planning methods including sterilisation procedures.

METHODS:

I **Abstinence:** This of course is the ideal method but is not practical for most normally sexed human beings.

II **Safe Period:** The *unsafe* period is from the 10th-12th day to the 18th - 20th day after the 1st day of the previous period. Many of our poor mothers still think the above or inter-menstrual period *is the* safe period, when it is in fact the most *unsafe*.

The Roman Catholic Church does not condemn this method.

III **Coitus Interruptus** is probably the most common method practised even today. The withdrawal of the penis from the vagina before the ejaculation of semen, but it must be remembered that live sperms can crawl up the vulva and vagina into the Os (opening or mouth of the womb) and occasionally fertilise a wandering ovum in the fallopian tube. (Tube connecting the ovary to the womb) This is due to the fact that sufficient care is not taken to ejaculate in an area of non-contact with your spouse's anatomy. As an additional precaution both parties must wash their private parts and wipe it–then dry with a *towel* before they go to sleep again. Unfortunately the failure rate is very high, as many men are unable to withdraw completely or in time.

IV **Condoms** are probably the second most common method on a global scale. It has gained popularity in Sri Lanka since 1974 when a Community Distribution Programme was initiated here. In 1980 over 7 million condoms had been distributed to boutiques and shops throughout the island.

You must make sure that the condom is not damaged and that the semen does not leak out of it after use. If this has happened it is best for your spouse to have an immediate vaginal douche with soap and water. If no facilities are available to do this soak a clean cloth in salt and water or vinegar and insert it into the vagina. A further precaution is to smear the condom with spermicidal jelly which can be bought at a FPASL clinic or headquarters or at a shop etc. and this makes it 90-95% effective against pregnancy. When you remove the condom after coitus, do not do

so in bed, but get up and remove it; then wash your parts well with soap and water, wipe yourself dry before you go back to bed. There is a 5–20% risk of pregnancy with the use of condoms alone, but if all the precautions detailed above are taken this rate of failure can be cut down to a very considerable extent. A condom should not be used more than once. The condom method prevents transmission of gonorrhoea or syphilis from one partner to the other.

IV **Diaphragm & Jelly:** This has almost disappeared from usage except among older clients who are used to this method and like it. If properly used the risk of pregnancy is small.

V **Foam Tablets:** These are unpleasant both to the male and female partners and are not recommended by us.

VI **Natural Method:** This involves the slide examination of cervical mucus (*i.e.* mucus from the mouth of the womb)and the consequent abstention from coitus when the mucus shows a tree-like formation on the slide. It is unreljable and the pregnancy rate is mueh higher than through the conventional methods of contraceptives. It is probably only suitable for highly trained professional workers like female doctors, scientists, laboratory technicians etc. It is recommended by the Roman Catholic Church.

VII **Oral Contraceptives:** Once a month an egg leaves the woman's ovaries and enters the tubes. This release of the egg from the ovary is called ovulation. While a woman is taking the pill her ovaries do not release eggs. If there is no egg there can be no pregnancy, Women over 40 years and those with a history of cancer, liver diseases, jaundice, blood

clotting disorders or high blood pressure should not take the "pill". There are many types of "Pills" available for contraception. The commonly used ones are a combination of oestrogens and progestogens (i.e. hormones from the womb and other organs) which are given from the 5th day after the 1st day of the previous menstrual period for 21 days. Some are now given for 28 days. If the "pill" is taken correctly, there is almost no chance for a pregnancy to take place.

The advantages: It is easy to take; you must make a habit of taking it at a fixed time of the day, such as at bedtime or when brushing your teeth in the morning or evening. You must take the pills with you when you go away from home. You must *not stop* taking it if your husband leaves home for a few days. If you are separated from him for a long period (i.e. husband going abroad) then only may you stop it. The pill is cheap if you get it from a government source or the FPASL.

It must be kept away from children.

There are side-effects that are beneficial to a woman such as;

(a) Making a woman's period regular

(b) Reducing menstrual cramps (pain)

(c) Reducing the menstrual flow.

(d) Clearing up-acne (pimples) etc.

Disadvantages: The side effects are more unpleasant and uncomfortable than dangerous. There is no evidence whatsoever that the pill produces. Cancer. In fact Cancer of the Breast is less common in pill takers than in those women who have not taken them.

The commonest side-effects are nausea and vomiting, gain in weight, irregular menstruation, amenorrhoea, spotting between periods or occasionally excessive bleeding and breast tenderness. These side-effects usually disappear in about two months, otherwise you should see your doctor.

Uncommonly you may get disturbances of vision and yellowish or brownish patches on the face, severe headaches, shortness of breath, pain in the leg or chest. The client should be warned about these side-effects before hand and advised accordingly. She should be told also that each time she misses taking the pill even for 1 or 2 nights, the chances of an unwanted pregnancy are significantly increased. The sequential pill is not recommended, as the pregnancy rate is high, The same objection could be raise against the morning after the pill.

VIII **IUD: (Intra-Uterine Device)** commonly called the "coil" by our women it is a very useful and effective method though its complications are more severe and troublesome. The Lippes Coil is used in Sri Lanka though the Lippes Copper Coil is better but very expensive,

The advantages are its a once-for-all operation and there is no responsibility on the part of the participant for further co-operation, except to feel for the threads (on bathing) in the vagina, because sometimes the coil may be expelled with the menstrual period etc. without the knowledge of the wearer. *When the IUD is inserted she must be shown by the doctor or nurse how to feel for the threads.* This is important The other reason for the absence of threads in the vagina is when rarely the IUD has perforated the wall of the uterus, and is found in the peritoneal cavity. It may cause no symptoms at all; in which case no further action is necessary. If, however, it causes pain in the abdomen or over the spine, the woman should be x'rayed

and a gynaecologist consulted regarding the advisability of surgical intervention. If the IUD is expelled, the woman must be warned not to have coitus till it is re-inserted, or she is changed over to another method of contraception. She should also be told to take whatever is expelled to the doctor who inserted it and show it to him. The other common side-effect is "spotting", irregular bleeding, *excessive menstrual* or intermenstrual bleeding. Only the latter is serious. In all cases where the IUD is inserted the client must be warned of these possibilities and advised to enter a hospital where a blood transfusion or even saline infusion could be administered. In our opinion an IUD should not be inserted where these facilities are not available within easy reach of the client.

In the case of spotting or mild irregular but not copious bleeding, the woman should rest in bed and if this has not relieved her, she should re-visit the clinic where the IUD was inserted for futher advice.

Rarely, some mothers believe that the IUD can travel all over the body. even to the brain and lungs. As this is impossible and if the woman expresses any anxiety about this, she should be assured. Less commonly one could encounter cases of severe additional pain or spine ache. She should be advised to rest in bed, place a hot water bottle on her lower abdomen and take 2 aspirins or panadols 3–4 times a day till the pain is relieved. If it does not, she must see a doctor without much delay. An IUD is best inserted during the last days of a menstrual period or soon after, but if it is quite certain that she is not pregnant it could be inserted at any time.

IX **Injectables**: The injection is given *intramuscularly* once in 3 months at government, base or provincial hospitals or wherever anyone trained in obstetrics and gynaecology during then internship, his is available.

It is also available at FPASL headquarters and some of its clinics.

You may also have it administrated by a private practitioner who has had the same training as mentioned above.

Its Advantages: In most cases this method may need only a 3 monthly visit to the clinic. No co-operation is necessary from the client. Its side-effects are not serious, though inconvenient and sometimes unpleasant. The commonest is amenorrhoea, i.e. absence of the monthly period. The staff who administers the injection should warn every patient that this may occur ; often more than half the patients may suffer from amenorrhoea at one time or another after these injectables.

The women's great fear is pregnancy. In the absence of lactation she must be advised to attend the clinic if the period is unusually delayed each month, when it could be corrected by the use of some simple remedies. The clinic will also make sure that she is not pregnant. Less than two in 100 women may however get pregnant in spite of being injected. The other less common symptom is spotting, irregular or excessive bleeding. In these cases she must return to the clinic for further advice and treatment. Excessive gain in weight occurs in about 5 of 100 women. By cutting down the calories salt and fluids in the diet one may be able to control this effect in most cases.

X **Tubectomy : (Excision or ligation of the fallopian tubes) or female sterilisation**: This is a safe and simple method and is now done at all government hospitals as well as at FPASL headquarters and the Sevena Clinic at Cotta Road, Borella under local anaesthesia. You are entitled to a special gratuity of Rs. 500/- (at present), if you

have a tubectomy done. This will be done only in women under 45 years of age who have had at least 2, normal children. At present both the husbands and wife's consent is necessary. The advantages are that it is a once - for - all procedure. There are hardly any complications worth talking about, if it is performed by a skilled and trained gynaecologist under proper aseptic conditions, *eg.* in a surgical theatre. Its disadvantages are that in most cases it is still irreversible. We therefore do not advise women to have this operation unless their youngest child is healthy, strong and over 2-3 years of age and they have at least 1 boy and 1 girl.

XI **Vasectomy : (Excision of a part of the tube conveying the spermatazoa from the testes to the seminal vesical)**; has become popular in this country after an incentive of Rs. 500/- was given by the State to each client. Its advantages are the same as for Tubectomy.

There are various false beliefs about Vasectomy :

1) That one becomes impotent. This is quite incorrect. On the contrary in the majority of cases it increases libido *i.e.* sexual desire and activity,

2) That it may result in behavioural and mental disorders. This again is unfounded. There are many unbalanced males who have this operation for various illogical or unworthy reasons. They are already mentally or emotionally disturbed and the vasectomy may precipitate a covert disorder into an overt one.

3) That it provokes pain and discomfort in the genital region. This may be so for a few days but it passes off quite early. Every person who has a vasectomy should be warned that he must use some other method *e.g.* condoms or pills for his spouse, because live active spermatazoa may be present in the ejaculate during that period or even later. Therefore every vasectomized person should have his semen examined by a trained technician after 3 months, If slow motile sperms are found the same precautions (*e.g.* another contraceptive method) should be continued for a further 2 months, or till the semen is certified to be clear of active sperm.

Vasectomy is still irreversible in most cases though recanalisation through a miorosurgical procedure has been evolved which has proved successful in a minorlty of cases todate. With further refinement of surgical techniques it is more than possible that a majority of cases will be able to reproduce successfully in the near future.

After this minor surgical procedure, he must rest at home for a few hours and refrain from doing any heavy manual work like carrying loaded gunny bags etc. for at least a week. If there is a discharge of pus or blood see your doctor early.

Errata

Page 3 two instead of to, 4th line from the bottom.

Page 6 table 2nd line, 1½ chundus.

Page 9 2nd para, last line, amenorrhoea instead of infertility

Page 13 xviii 3rd para, 4th line, 1½ pints instead of bottles

Page 14 last para 3 lines from bottom 8-10 minutes instead of 8.

Page 17 3rd para, 6th line, from bottom after the word puerperal add mania.

Page 19 last para, 7th line from bottom, see page 21.

Page 24 last para, first line, substitute food pack or tin for good pach.

Page 28 under formula ii add Similac plain with iron and S 26.

Page 29 under No. 2 add after 18%. These brands mentioned are prescribed for babies who show fat intolerance.

Page 37 Delete para 2.

Page 44 Baby's day after 1st 3 months, insert refer pages 35-36:

Page 46 Delete under 10 a.m. cereals and add cerelax farlene & farex

Page 47 under 6 p.m, feed delete boiled or baked custard and milk pudding and add avacardo pear

Page 51 under cereals add corn flakes, kurakkan porridge and pori. Delete milk with milk and add milk rice.

Page 53 under breakfast 7-8 a.m. 7th line from bottom add after porridge etc. milk rice and mung kiribath.

Page 56 under vegetables after other greens add murunga and kathuru murunga leaves katuthampala, kankun, after green gram add dehiala, innala, dambala, drumsticks after broths under soups add kola kande.

Page 57 5th para, omit Cheese white

Page 60 The Baby of Low Birth Weight, This Chapter has been re-written by Dr. B. S. David MD, F.R.C.P. Ex Consultant Paediatrician to Castle Street Maternity Hospital Colombo and Lady Ridgeway Hospital, Colombo

Page 69 end of para 1, instead of (page 31) see page 32

Page 70 One but the last para, last line, instead of (see page 23) see page 25

Page 71 second para, 4 lines from the bottom instead of (see page 19) see page 21

Page 73 last para, 4 lines from the bottom (see page 104) see page 101

Page 77 One but the last para, 3rd line (see page 32) see page 33

Page 97 2nd para, 2nd & 3rd line, instead of (see page 85) see page 82

Page 120 3rd para, 5th line, instead of additional correct to abdominal

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