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# Health

*A Journal Devoted to Healthful Living*

**Edited By Dr. U. Rama Rau & U. Krishna Rau, M.B.B.S.**

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## EDITORIAL

## Nutritional Diseases

IN the history of the growth of scientific medicine, various theories have been put forward from time to time for the causation of diseases. There were the days of "Heredity", when diseases were traced generally to one's parents and forefathers. Then came the period of 'Infection'. Under this heading, air was first accused of as the chief offender in the propagation of diseases and malaria was at one time considered to have originated from bad air (mal-air). Water was the next culprit and we have still a number of air-borne and water-borne diseases prevalent but it is neither the air nor the water that is responsible for a particular disease. It is the germ that is carried through the air or contained in the water that always causes the disease. This period of Infection through germs is now being slowly supplanted by 'Nutrition'. Many diseases have now been grouped under 'Deficiency Diseases' and much research has centred in the study of diseases resulting from the diminution or absence of particular Vitamins.

Enough has been said already about Vitamins in the columns of "Health" that it is needless for us to dilate upon them here. There are six kinds of Vitamins known to the medical world to-day *viz.*, A, B, C, D, E & G. The characteristics and properties of these Vitamins have undergone tremendous changes in recent years and the last word has not yet been written on any one of them. *The Vitamin A deficiency* renders the body more susceptible to respiratory infection. There are also two types of changes on the eye from vitamin A deficiency *viz.*, (1) night blindness. (2) Xerophthalmia, Zerosis or

Keratamalacia—all of which have to do with changes in the Epithelium of the eye-ball and para-ocular glands.

*Vitamin B* is the anti-neurotic vitamin. It is definitely concerned with growth. Patients in whose diets this vitamin is absent develop anorexia and neuro-muscular symptoms suggestive of beri-beri, of which it is the recognized causative factor. This vitamin is required in large quantity for successful mammary function. It is intimately associated with vitamin G.

*Vitamin C.* is the anti-scorbutic vitamin. It has recently been suggested that deficiency of this vitamin plays a part in female sterility and in some instances of habitual abortion and premature delivery. Clinically, it has been found that in addition to scurvy, vitamin C deficiency causes decay and loosening of teeth and decalcification of bones.

*Vitamin D* deficiency causes rickets. It is an indispensable accessory food factor in proper growth and nutrition. *Vitamin E*, is related to reproduction. The knowledge about this Vitamin is still scanty.

*Vitamin G*, is the anti-pellagric vitamin. "Klander and Winkleman have demonstrated that alcoholism may contribute its share in the onset of pellagra as the history of their patients was uniform concerning alcoholism of year's duration and the appearance of symptoms of pellagra after a debauch lasting several weeks or months during which time little food was eaten".

Elsewhere, in this issue, appears an article on 'Vitamins' wherein is given the list of food-stuffs containing these Vitamins and their proportion and it may advantageously be read with this article.

Apart from vitamins, there is another factor which is generally overlooked in Nutrition and that is, water. As a matter of fact, its importance is second only to oxygen. It is the vehicle which carries nutrition to the cells and carries away the waste products of metabolism and furnishes the medium for all intracellur chemical changes. About 70% of the entire body weight is water, so, we must have a sufficient intake—*i.e.*, about 9 glasses of water per day are required for a healthy person. Here we have a significant finding recorded by Dr. Rufus S. Reeves, M.D., of Philadelphia in his article on 'More Recent Ideas of Nutrition', published in 'American Medicine-April '35, from which we have freely drawn materials for the purpose of this article, and that is, that drinking water at meal time is more an aid than a hindrance to digestion, contrary to the already established theory on the subject. He says:—"Before concluding my remarks on water, I want to stress the fact that drinking water at meal time accelerates rather than hinders digestion—this fact has been proven in the laboratory more than once".

There are again certain deficiency diseases, which are the result of mineral deficiencies. It has been estimated that the human body contains about 7 lbs of mineral matter of which about 5/6th is in the bones. All these mineral ingredients are of course obtained from the diet and they are necessary for the building up of tissues and organs. Recent estimates of the amount of some of the chief

mineral ingredients of the diet required per day are as follows :—

| | | |
|---|---|---|
| Phosphoric acid | ... | 3 to 4 gramms |
| Sulphuric ,, | ... | 2 to 3½ ,, |
| Pottassium Oxide | ... | 2 to 3 ,, |
| Sodium ,, | ... | 4 to 6 ,, |
| Calcium Oxide | ... | 1 to 1.5 ,, |
| Magnesium Oxide | ... | 0.3 to 0.5 ,, |
| Chlorine | ... | 6 to 8 ,, |
| Iron | ... | 0.006 to 0.012 ,, |

The amount of mineral matter found in an ordinary mixed diet is more than sufficient for all the needs of the body and is estimated to be about 20 grammes exclusive of the addition of salt in the culinary preparations.

The subject of 'Nutrition' has of late attracted the attention of the medical profession and the Far Eastern Association of Tropical Medicine have decided to bring this topic before their next congress, as can be seen from a communication published at the end of this journal. We trust newer ideas and materials will be forthcoming as a result of their discussions and deliberations, which will contribute more to the health and happiness of human beings.

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### DENMARK CONQUERS SYPHILIS

*For a century and a half Denmark has been fighting syphilis. Now comes the word that the disease is conquered, and Hamlet's remark, "Something is rotten in the state of Denmark," is not so applicable. Compulsory treatment, penalties for infecting others, a very careful filing system of cases and follow-up tests for several years after treatment, have solved the problem of syphilis, one of the greatest public health problems almost everywhere. All patients, high or low, rich or poor, male or female, of good or bad character, are alike subject to the same regulations.*—THE ORIENTAL WATCHMAN.

# Malaria Fever

*By*

DR. G. RAMAN PILLAI,

*(Formerly Malaria Officer, Madras.)*

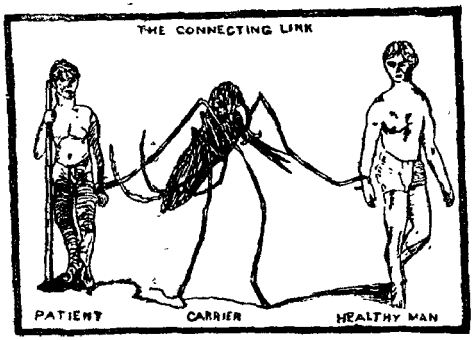
WE get the malaria fever when a mosquito with the disease bites us. The healthy mosquito's bite does not give us the malaria fever or any other disease. But when the mosquito sucks in the blood of a patient, the insect swallows the germs of disease. These germs grow in the body of the mosquito but do not kill it. The diseased mosquito, on next biting a healthy man, injects the germ into his blood. The germs, now in the man's blood, rapidly multiply and cause the fever and other symptoms of the disease.

If there were no germs, there would be no malaria of course. But the germs are found in nature as other living beings: and we have to fight them to be saved from them. If there were no mosquitoes there would probably be no malaria in man; but the mosquito is also found in nature and we have to fight them too, and keep them from biting us. We have had the mosquitoes with us for ages; but they did not always bring us malaria. We have had the dogs with us for ages; and yet we did not always contract 'rabies' (mad-dog disease) until the dog got mad (=rabid). It is therefore the diseased animal or insect (mosquito) that brings us also the disease. It follows that diseased animals should be destroyed if possible. Dogs are useful to us but mosquitoes are not by any means so.

If the killing of all mad dogs can save us from rabies, the killing of all

mosquitoes can save us from malaria too. But the killing of every mosquito is not possible; we can only reduce their number by actively fighting them where their eggs are laid for breeding their kind, when they are near our habitations. It is clear that if we reduce their number we shall reduce the number of chances of their carrying fever germs.

There is another important way to reduce malaria. If the mosquito cannot bite a feverish man, it cannot




obtain the germs to carry to another man. We have therefore to see that men with fever are not allowed to be bitten by the insect. Also, if our treatment of patients is effective, and if the germs in their blood are killed off by drugs, there will be no germ for the mosquito to swallow, and consequently no germs to carry to another man. But how to kill off the germs in a man's blood? This is done by means of drugs or medicines diligently given. If the treatment by these drugs is not thoroughly carried out, only part of the germs are killed: and the man's blood still contains the germs ready to be sucked by the next mosquito that bites him. Ineffective treatment is the chief cause of the disease still clinging to man.

Man is the store-house of the germs. The disease spreads because partly treated men are among us.

The killing off of the elusive mosquitoes is a more difficult problem than the killing off of the germs that are already in man. In practice, both methods are attempted, as each of them can only be partially successful.

To destroy all the germs in man, the most effective plan is to treat all the cases in hospitals where all the up-to-date medicines are available and where qualified doctors can treat patients as in-patients until they can be sent home free from germs, in their blood. Patients cannot know when they are rid of the germs and therefore when to continue or stop treatment. We shall require a number of malaria hospitals for this. This would be costly; but there is no other way of stamping out the disease effectively at present. The disease is spreading from place to place; and it does not depart from places it once visited.

Money spent in time when the disease is limited would save uninfected areas that otherwise are certain to be infected in due course. Vigorous measures in the beginning will be rewarded, and cost in money should be no consideration. The cost in labour, in earning capacity, in revenue to the state, in health, in lives would be tremendous if the disease runs its own course.

The rains would no doubt reduce the number of mosquitoes breeding; but the thousands of human beings who have already got the disease cannot easily be cured or freed of the germs, unless they are vigorously treated. These thousands of victims are as many sources of spread of disease unless they are dealt with as suggested.

# Chicken-Pox

*By*

L. SESHADRINATHAN, M.B., B.S.,

*Coimbatore.*

I PROPOSE to write a series of articles on contagious and infectious diseases, and I begin the series with Chicken-pox, as I have just had to deal with an epidemic of Chicken-pox in my own family.

This disease is known as "*Chinna Ammai*", '*Nirkuluvan*' or '*Vilaiyatu Ammai*' in Tamil. Before one notices the rash, there is very rarely any fever etc., but some cases do have pain in the back, pain in the calf muscles, head-ache and low fever and only when the eruption comes out is the nature of the disease known.

At first all one notices is a crop of reddish spots which look like mosquito or bug-bites which in the course of 12 to 24 hours turn into vesicles—that is —appear like a bubble of clear liquid placed upon the skin. These vesicles may or may not be surrounded by a small reddish area. These clear transparent vesicles soon turn translucent and cloudy and within two or three days begin to dry up leaving yellowish or brownish scabs which fall off in the course of the next few days. Low fever and pain in the body and limbs may be present for the first two or three days. The rash is generally first noticed on the chest: but the face, trunk, and limbs may also have them. This disease is very rarely dangerous to life and it is most common in children, though infants and adults are also sometimes affected. One attack usually protects one for the rest of one's life. Vaccination does not protect against chicken-pox, nor does an attack of chicken-pox prevent one getting small-pox. These two diseases are quite separate entities, though severe forms of chicken-pox may lead one to suspect small-pox. In small-pox there is usually high fever for 2 or 3 days before the eruption is noticed and is attended with severe pain in the back and limbs and head-ache, and the eruptions when they occur are found more on the limbs than on the trunk. Again, in small-pox the vesicles when they turn turbid get depressed in the centre and seem to arise from *within* the skin whereas in chicken-pox they seem to be placed *on* the skin.

By way of treatment in chicken-pox, nothing much is necessary. Isolation in a well-ventilated room is essential especially in households where there are other children about, though in spite of all precautions many children get the attack one after another. The period in which the disease develops in any individual is about 15 days from the day of infection.

It is interesting to record here my observations on the epidemic I have just passed through. A relative of mine was suffering from chicken-pox sometime ago and was isolated at one of the I. D. Hospitals at Madras. Though he was not supposed to write himself to anybody from the hospital, he did write to his family a letter (which was of course carried by the post) and exactly fifteen days after receipt of the letter, one child was taken ill and the same evening the rash made its appearance, and by the

time I write this, nine children have had the attack, one after another, the last one to have the attack being a nursing mother with a two months old baby. This put me in a fix whether to allow the mother to nurse the baby or start weaning at such an early age. The popular belief that '*Ammai*' does not enter the cradle is true to a certain extent. The mother's milk contains antibodies to the virus causing the disease and is very likely to protect the child. The baby has already had exposure to infection atleast up to the moment that the mother's condition was recognised and perhaps getting through with the attack in the baby also is the lesser evil than taking the child off the breasts and start hand-feeding. Another interesting point to record here is the admission of the relative in the Madras Hospital of having *licked* the envelope for sealing it. The cantagion was therefore most probably spread by his saliva. Besides the number of children in his own family, God only knows whether any of the postal or railway officials who handled the letter got the disease. Incidentally, apart from the unaesthetic aspect of licking envelopes and stamps, this shows us the danger of spreading an infection like chicken-pox.

Apart from isolation, clean, light linen, easily digestible light food, and attention to the bowels are all that are necessary. To prevent the child from scratching, it may be necessary to apply carbolised oil (1 in 50) or weak Condy's lotion to the eruptions and the child must be isolated especially when the scabs begin to drop off as these scabs cause rapid contagion. Generally 10 to 15 days of isolation after the scabs begin to drop off will be enough.

When the scabs begin to drop off, the child must be given daily baths with a mild antiseptic soap like Wright's coal tar soap or weak carbolic soap.

In some weakly, under-nourished children, sores might be lingering after the attack and attention to general health and cleanliness will soon improve the condition.

# Vitamins in Common Food-Stuffs

*By*

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THE readers of the 'Health' are aware of the usefulness of vitamins for the growth and maintenance of our body. We like to take up the subject of vitamins for discussion and give here a brief description of the common vitamins together with a list of common food-stuffs containing relative quantities of different classes of vitamins.

## Vitamin A

**Fat-soluble Vitamin A.**—It is a colourless fluid substance soluble in fat or oil. Its precursor in vegetable kingdom is a yellow coloured substance called carotin, found in most green vegetables, which is collected by animal organs from food and from it, the vitamin A is manufactured in the body.

It is an anti-infective agent and

hence its deficiency in man increases susceptibility to infection by the micro-organisms. It maintains the resisting power and nutritions of the epithelial cells of the lining membranes of mouth, bowels, lungs, kidney etc., and hence its prolonged deficiency in food leads to diseases of these organs. Eye is specially susceptible to its deficiency and hence eye diseases like xerophthalmia and night blindness follow its deprivation.

It is available in butter, yellow of egg, liver oil of cod and Halibut fish, liver of herbivorous animals, fresh vegetables, cabbages, lettuce, *Palong sag*, tomatoes, mangoes, carrots etc. In the biological laboratories of Bengal Chemical, Calcutta, country fishes–*Dhain*, *Vetki*, *Chital*, *Mrigal*, *Rohit*, *Ilis*, *Tengra*, etc., have been found to contain vitamin A in their liver. Though it is not destroyed by ordinary heat required for cooking, yet, prolonged heat in the presence of oxygen destroy it. Hence, the amount of vitamin A in *ghee* is much less than the amount contained in butter.

### Vitamin B

According to their actions on different organs, the former vitamin B complex is now recognised to be composed of two component factors: $B_1$ and $B_2$.

**Water soluble vitamin $B_1$.**—It is a water soluble substance which has been recently isolated in crystallised form, from the yeast. It is an important accessory food factor, which is essentially required for nourishment of brain and nerves,and which increases the digestive functions and activates the digestion of carbohydrates (starchy food). It is a specific for the treatment of beri-beri and epidemic dropsy and is used as a powerful preventive too. It is also useful as an adjunct in the treatment of diabetes.

It is available in plenty in germinating wheats and grams, wheat brans, rice polishings and rice embryos, yeast, peas, lentils, yellow of egg and potatoes. It is found in less degree in green vegetables and leaves. The amount available in milk is scanty. It is destroyed in presence of alkalies and prolonged heat.

**Vitamin $B_2$.**—It is regarded as Pellagra-Preventing Factor (P. P. F.) and is water soluble. Pellagra is a disease characterised by severe bowel disorders, ulcers in the bowels, lesions on the skin, headache, mental and nervous debility and is said to be caused by deficiency of vitamin $B_2$ in diet. Recently attempts have been made to isolate crystallised vitamin $B_2$ from whey, white of egg, urine, kidney and liver of animals, which has been successful to some extent.

It is said to carry oxygen like haemoglobin in the blood (Warborg, Germany). Ingestion of vitamin $B_2$ in the form of yeast is said to increase the quantity of vitamin $B_2$ in the milk of suckling mother, which is essential for the growth of infants.

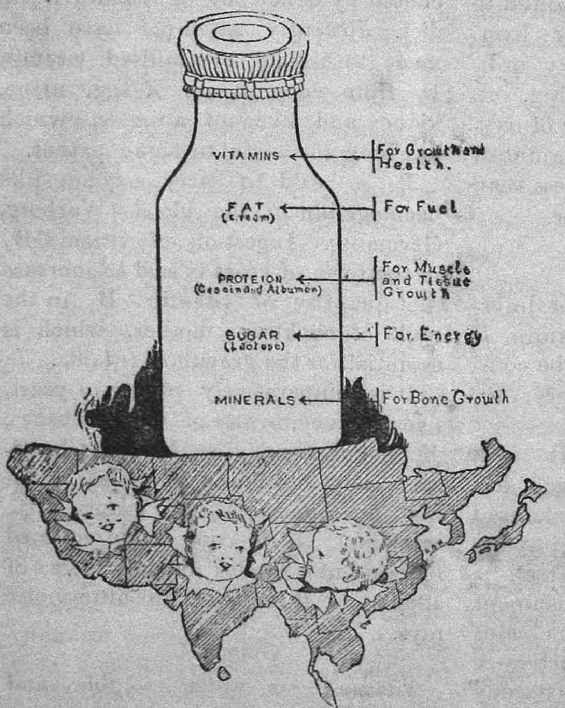
It is comparatively plenty in yeast, liver, kidney, white of egg, cabbages, *Motor dal*, *Sank aloo* (Bengal Chemical). It is not found in pulses, even not in germinating grams ($B_1$ available). It is not easily effected by heat but is spoiled in the presence of alkalies or if exposed to ultra-violet rays.

### Vitamin C.

**Vitamin C.**—is water soluble and called 'antiscorbutic'. Scurvy is a

disease characterised by general debif lity, lack of energy, bleeding gums, internal bleeding in muscles and other organs, pain in the limbs and body, caused by deficiency of vitamin C in diet. Formerly when nothing of this vitamin was known, a large number of soldiers and sailors used to die every year of this disease, as no vitamin C was provided with their diet either in the form of fresh fruits or green vegetables. Recently, Reichstein of Switzerland and Herst of England have synthetised vitamin C. It is called 'ascorbic acid' available in the form of white crystals and is largely being used in the navy and by the sailors and soldiers. Up to the 5th month of age, infants can manufacture vitamin C in their system and hence -rom 5th month onwards vitamin in the form of orange juice must be supplemented to their food.

Vitamin C also helps to carry oxygen like vitamin $B_2$. It is also required for growth. Vitamin D cannot work in the absence of vitamins A and C. Found naturally in orange, tomatoes, (A & C plenty), *Pati* and *Kagji* lemons, pineapples, mango, grapes, fresh ripe chillies, potatoes, onions, cabbages, cauliflowers, germinating grams, peas, green leaves, etc. It is destroyed by heat.




*Safe milk-the foundation of a healthy nation.*

## Vitamin D

**Vitamin D.**—Is required to regulate calcium and phosphorus metabolism in the body. Its deficiency in diet leads to rickets and osteomalacia. Ricket is a disease commonly found amongst children and is characterised by deficient growth, malnutrition of bones, which are soft and often cause deformity. The child is always irritable and suffers often from digestive disorders. Osteomalacia is also a disease of bones, which leads to softening and deformities of bones and the disease is very much prevalent amongst the pregnant women in some parts of India. It also participates in physical development of children and formation of bones and teeth.

Vitamin D is fat soluble and found mostly in cod and other liver oil, yellow of egg and milk (butter). Artificially vitamin D can be obtained by irradiation of a chemical substance called 'Ergosterol' by ultraviolet rays. Ergosterol is prepared from yeast but is also

found in our skin; hence manufacture of vitamin D in our skin in the presence of sunrays. As the growing children need it most, they must be allowed to play exposed in sun in some hours of the day. The diet of pregnant women must contain plenty of vitamin D. Milk of healthy cow, which grazes in open air and eggs are the easy sources of administering vitamin D, otherwise some proprietary preparations containing calcium and vitamin D may be given with advantage.

### Vitamin E

It is a fat soluble vitamin, which influences the reproductory function. Though much has not been known about it, yet its deficiency has been known to cause abortion in early part of pregnancy. Due to want of vitamin E, males lose their reproductory function altogether and the females lose it to some extent. If taken much for a long period, it is said to accumulate in the system. It is found in oil of embryos of maize, oats and wheats. Amongst green vegetables, it is commonly found in lettuce and germinating grams.

With a view to enable our readers to select their articles of food, the writer intends to incorporate here a table showing the relative amount of important vitamins available in common food stuffs, collected from works of different research workers.

**Table showing the Vitamin Contents of Food.**

| Articles of food | Vitamin A | Vitamin B | Vitamin C | Vitamin D | Vitamin E |
|---|---|---|---|---|---|
| Apple | + | + | ++ | | |
| Banana | ++ | ++ | ++ | Variable | ++ |
| Beet root | + | + | + | | |
| Bread made with water | + | ++ | | | |
| Butter | ++ | | | ++ | ++ |
| Butter milk | + | + | + | | |
| Cabbage cooked | + | | + | | |
| Carrots, cooked | + | + | + | | |
| Carrots raw | ++ | +++ | + | | |
| Cauliflower raw | + | + | +++ | | |
| Cocoanuts | + | ++ | | + | |
| Cream | ++ | ++ | + | + | |
| Cucumber | + | | ++ | | |
| Dried milk (whole) | +++ | ++ | | | |
| Eggs-yolk | ++ | +++ | — | +++ | ++ |
| Fish (fat) | ++ | + | | | |
| Grape-fruit | ++ | + | +++ | | |
| Grape juice | | + | + | | |
| Green beans | + | ++ | + | | |
| Kidneys | ++ | ++ | + | + | |
| Lemon juice | + | + | +++ | | |
| Lentil | + | ++ | + | | |
| Lettuce | ++ | +++ | +++ | | +++ |
| Liver | +++ | +++ | Doubtful | | ++ |
| Maize | + | ++ | — | | + |
| Mango | ++ | | +++ | | |
| Milk condensed | ++ | ++ | + | + | + |
| Milk Fresh | ++ | ++ | + | + | + |
| Molasses(cane) | | ++ | | | |
| Oats | + | + | | | + |
| Onions | + | ++ | ++ | | |
| Orange juice | + | + | +++ | | + |
| Peaches | ++ | + | ++ | | |
| Peas Fresh | ++ | ++ | +++ | + | |
| Pepper (green) | ++ | + | +++ | | |
| Pineapples | ++ | | ++ | | |
| Potatoes (cooked) | + | | ++ | | |
| Pumpkin | ++ | + | + | | |
| Raw cabbage | ++ | +++ | +++ | | |
| Skimmed milk | + | | + | | |
| Spinach, Fresh | ++ | +++ | +++ | + | |
| Tamarind | | | + | | |
| Tomato, raw or preserved | ++ | +++ | +++ | | |
| Turnip | + | ++ | ++ | | |
| Wheat bread made with milk | ++ | ++ | Doubtful | | |
| Wheat bread made with water | | ++ | | | +++ |
| Wheat bran | ++ | +++ | | | |
| Wheat grain | ++ | +++ | | + | |
| Whole barley | + | ++ | | | |

# Rejuvenation

*By*

R. RAJAGOPALAN, B.A.,

*Ootacamund.*

REJUVENATION! It is a magic word attracting the old and the indiscreet young. Modern civilisation is sapping out the life blood of the young, and the aged are not the same old strong men, who can walk ten miles with ease, subsist on two meals a day and keep up the erect pose. Vim, Vigour, Vitality! These words draw mankind to advertisements as iron is drawn to a magnet. Every one likes to possess the strength and spirit of youth. But how to get them? There are tonics—too many in the market to choose from—which will convert a shrunken old man into a veritable *Atlas*! There are compact little tabloids replete with all the three Vs. There is again that reputed gland treatment which instils into a decrepit body all the agility and virile power of a young monkey—Of course, I am not repudiating the efficacy of the monkey gland treatment, but is it within the reach of every man?

2. Coming to the physical aspect of a human system, senility is caused by the decay of tissues and the weakening of the vital organs in the body as age advances. Premature aging may be the effect of sudden grief, worry due to pecuniary wants or starvation. Chronic illness also has an influence in aging one very soon. Lastly and the worst enemy of age is indiscretion in youth and licentiousness. Rejuvenation is the process of

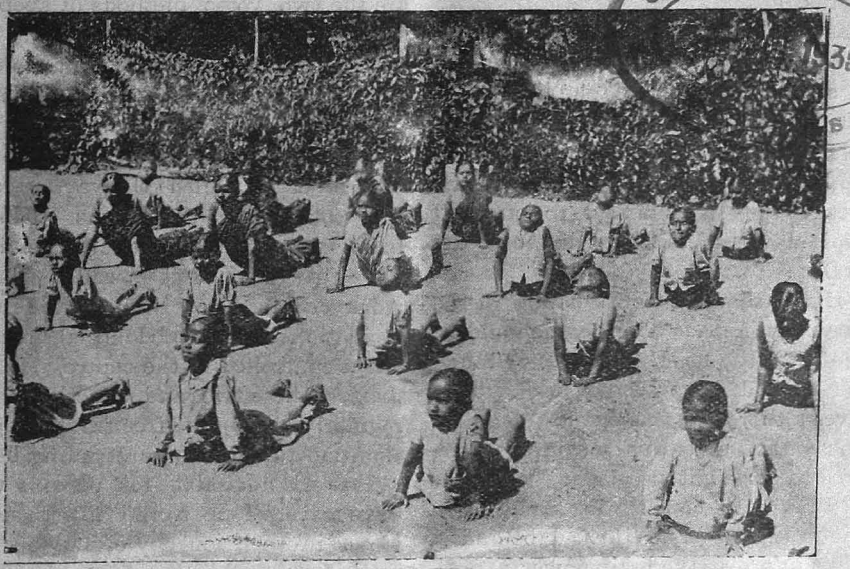
AUNDH BOYS IN PHYSICAL ACTIVITIES

*Under the auspices of the chief of Aundh, boys are trained in all the different kinds of physical culture, in drilling and physical displays of the Indian Danda etc. Physical training is compulsory in the State.*

recuperating lost vitality and building up of fresh tissues, with the result the body attains the lustre of youth.

3. To obtain the erect gait and all round strength the spine is responsible. It is the spine that has direct control over the vital organs. "Old apple tells the tale" reads an advertisement for a face cream. True that an old man's face is a shrunken mass of lines and the complexion is swarthy. The muscles. As a result of his achievement he has published a book on old age and as a convincing proof of what he says he has started with two photos of his own self depicting him at the ages of 50 and 72. Another instance of the influence of exercises over age is that of Paulinetti, the world famous equilibrist, performing his stunts with the ease and agility of a boy at the age of *Seventy*. We have





AUNDH GIRLS IN PHYSICAL ACTIVITIES

*Under the auspices of the Chief of Aundh, girls are trained actively in drilling and in all the different kinds of physical exercises. Physical training is compulsory in the State.*

permanent rejuvenation of the face must come from within and liver is responsible for it. "Liver makes to live" goes the saying.

4. Physical exercises have a decided effect over old age. Sanford Bennett started doing exercises at the age of 50 with a body a loose bag of bones. At the age of 72 he was a *young* man of heard of yogis who have reached the century mark and yet going strong. The secret of it is that they practise a form of physical exercise though their ultimate object is to enjoy the life's real bliss through meditation. For undisturbed meditation the body should be perfectly healthy. That is the reason why the yogis are expected

to master all the yogic asans, (which are 84, I believe) which are advanced forms of physical culture. One main feature of these asans is that they have more effect on internal organs than on muscles. Of these asans three are very efficacious for curing premature aging. They are natural rejuvenating aids.

5. (1) Sarvanga Asan, (2) Hala Asan and (3) Siras Asan-these three have a control over the spine and vital organs.

Sarvanga Asan consists in lying flat on the back and then raising the legs up and up and up till the body rests only on the neck and shoulders. The hand should then be locked behind at the back. The chin now rests on the chest. This asan is said to cure all seminal weaknesses and increase the vitality.

Hala Asan is a continuation of the Sarvanga Asan. The legs should be bent over the head so that they touch the ground beyond the head. This gives a thorough massage to the spine. Some say that this encourages the growth of height also.

Siras Asan consists in standing on the head with hands locked behind it. This improves the brain power, expression and complexion of the face. It is said that seminal fluid reaches the brain through spine and thereby increases the retentivity of the memory. Blood rushes to the face and gives an internal wash to it.

These yogic poses are retained for some minutes. At the initial stage these may be impracticable but little by little with the support of a wall or friend they can be mastered. They tone up the system, toss off excess fat from the body, and build up vitality. There is the least possibility of big paunches developing up.

A thing which has a direct relationship to general health and complexion is the state of bowels. There should never be heaviness in the stomach due to stagnation of waste matter in the bowels. Udhyayana and Nauli are the two yogic methods of keeping the bowels in order. On waking up in the morning if these two are practised one can be free from stomach troubles. Drawing the abdomen in and in till the two walls almost touch each other is called Udhyayana and the isolation of the rectus abdominalis muscles and producing cavities on either side of it is called Nauli. Advanced form of Nauli is the rapid oscillations of the abdominal muscles when controlled in the centre. If one masters these two and practises them regularly he can be free from indigestion, constipation and protruding belly.

It is not advisable for persons who have travelled up to the fiftieth milestone in their journey of life on the road of age to do any form of violent exercises. Normally healthy persons below that age can safely do all the above asans without any harm. Young people who have outgrown their age owing to youthful indiscretions and impaired vitality may find these to their benefit.

**Age I do abhor thee**
**Youth I do adore thee"**—*Shakespeare.*

# Your Children's Milk

*By*

MARGARET Y. BRADY, M.Sc.

MILK is undoubtedly one of the oldest and most universal foods of man. Wells says that cows were first kept for milk ten or twelve thousand years ago, and now there are very few races, whether civilised or uncivilised, which do not have their supply of milk—if not from cows, then from goats, reindeer, or buffaloes.

According to the *Encyclopædia Britannica*, in England and Wales roughly 888,000,000 gallons of milk are consumed annually in the liquid form. This, however, only averages just under half a pint per person a day. When one considers how many children this includes, and how necessary it is for them all to have plenty of milk, it is a very low average. In Switzerland the average is nearly two pints per person per day, and in America it is one pint, while in Berlin it is only a little more than a quarter-pint per person per day.

**Composition of Milk.**—Milk consists largely of water, with milk sugar and mineral salts in solution, proteins in a colloidal state, and fat in the form of tiny particles finely divided, forming an emulsion. Fresh milk is therefore a complete food, containing as it does proteins, carbohydrates, fats, and mineral salts. It also contains vitamins.

Not only is it a complete food, but it is also an extremely easily digested food. The proteins rank among the highest, the milk sugar, or lactose, is the most easily digested of all sugars (except dextrose, which is the final product of carbohydrate digestion), and the fat is already emulsified. Through the mineral salts present in milk the following elements are introduced into the body: sulphur, phosphorus, chlorine, sodium, potassium, calcium, magnesium, iron, and iodine. These are all indispensable elements, and are all supplied in milk in forms readily assimilated by the system. The actual composition of milk is roughly as follows:

| | | Per cent. |
|---|---|---|
| Protein | ... | 3.3 |
| Fats | ... | 4.0 |
| Milk sugar | ... | 4.8 |
| Citric acid | ... | .1 |
| Ash | ... | .7 |
| Water | ... | 87.1 |

Fresh unboiled milk also contains the vitamins A, B, C, and D, although these vary somewhat according to the food of the cows and the season of the year. For instance, in winter, when the cows are fed largely on manufactured cake, and are kept indoors, the vitamin content is (as one would expect) very noticeably diminished.

**Food value and Digestibility of Milk.**—Apparently perfectly healthy children have been reared without any milk after weaning; but, as a general rule, milk is the best food on which to wean babies. It should be the main diet for the first two years, and it should take a prominent place in the diet all through childhood. This is because of its high food value and easy digestibility. It must, however,

always be borne in mind that milk is a food and not a drink. It should never be taken between meals to allay thirst, and when taken at a meal it should almost *be* the meal, and not be taken in addition to a lot of other foods. For instance, a glass of milk (*i.e.* half a pint) with some fruit is an ample breakfast or tea. The supposed indigestibility of milk is often due to the fact that it is gulped down (sometimes more or less under protest) at the end of a good big meal of bread and butter and cake.

**The "Milk Diet".**—The proteins, fats, and carbohydrates present in milk, in particularly easily digested forms, and the presence of organic mineral salts and vitamins, make milk an invaluable aid in many illnesses. It should not be taken by anyone during a period of *acute* illness. *i.e.*, when suffering from a heavy cold, or when there is any temperature, but as a rebuilding agent after disease it is nearly unsurpassable. This fact is recognised and made use of in the "milk diet," a scheme by which the patient lives entirely on quantities of milk for about six weeks. Half a pint of milk every halfhour for ten or twelve hours a day is taken, 4 to 6 quarts of milk being consumed according to individual requirements. The exceptional properties of milk are shown by the fact that such a diet rejuvenates the whole system, supplying essential materials to all parts of the body. The fact that large quantities of water are necessarily taken at the same time as the actual "food" part of the milk is advantageous, because it helps to wash out toxins and poisons previously accumulated in the system. *Milk itself is singularly free from toxin-producing materials. The milk diet has been successfully used in such conditions as nervous troubles of all sorts, general debility, stomach and digestive troubles, catarrh, rheumatism, and constipation, also in the early stages of tuberculosis, diabetes, and Bright's disease, to mention only a selection.* Its wide application is understandable when one realises that the large quantity of fluid taken not only helps to wash away accumulated poisons, but also ensures a larger quantity of fluid-circulating the body, improving the circulation of the blood, and supplying the whole system with indispensable food in a readily digested form, without undesirable toxic residues. While it is possible to continue with many sorts of work when on this diet, it is preferable to have a great deal of extra rest at such a time. The diet is usually constipating, and may need the regular use of an enema, and also supplementing with fruit juices.

**Commercially supplied Milk.**—*The special healing properties of milk apply to fresh unboiled milk, but it is not always possible to get such milk.* In towns milk is supplied in some of the following forms:

Certified milk (raw milk, produced from inspected cows under exceptionally hygienic conditions cooled and bottled straight away).

Grade A, T. T. milk (pasteurised or unpasteurised).

Grade A milk (pasteurised or unpasteurised).

Pasteurised milk,

Sterilised milk.

Certified milk is the best milk to use for babies and young children, although it seems rather expensive.

If this is impossible, unpasteurised grade A, T. T. milk is the next best, but it is not always possible to get it unpasteurised. For babies, it should be pasteurised at home according to the suggestions given at the end of this article. Sterilized milk is usually less desirable, as it has been subjected to much more heat than pasteurised milk.

Certified milk can be given to babies without pasteurising at home, or boiling. Although many people advise boiling this milk, it is really a great mistake.

**Boiled milk is spoiled Milk.**—Although in the ordinary processes of cooking it is difficult never to boil milk, still, as much milk as possible should be taken in the raw or unboiled state, for to a considerable extent boiled milk is spoiled milk.

The idea of boiling the milk is that it is necessary to kill harmful germs which can multiply rapidly in milk. While it is true that boiling does kill these germs, it also destroys useful bacteria and enzymes, and other changes take place in the milk which are definitely detrimental. That changes *do* take place when milk is boiled is quite easily demonstrated. For instance, when milk is just heated, long before it reaches boiling-point, a skin is formed, and when it reaches 80°C. the typical "boiled" taste is noticeable. Heating milk above 60°C, also impairs its ability to be made into junket, but when actually boiled more serious changes take place. As the temperature of milk rises to 100° C., gases begin to be given off, and changes in the constituents modify the taste and odour. Most important of all, calcium is deposited in the form of calcium citrate. This can be seen on the bottom of a saucepan in which milk has been boiled. This wastage of calcium is extremely important where children are concerned, for the calcium requirement of a growing child is greater than that of an adult. This is because they need additional calcium for bone formation and growth, as well as for daily metabolism. Dr. Sherman found that children can utilise the calcium in milk more readily than they can the calcium in vegetables, so it is essential not to deprive them of this element in milk by boiling it out of solution.

When children are to have their milk warmed, by far the best way to prepare it is to put the milk in a double pan and heat the water outside. As soon as the milk is warm enough, the pan should be removed from the fire. Very little change takes place up to a temperature of 60° C., and even this is much too hot for a child to drink. This method of heating milk is also the best to use when preparing hot milk for adults, as for coffee, etc.

The bacteria producing typhoid fever, diphtheria, cholera, dysentery, tuberculosis, septic throat, and other harmful germs which may be present in unclean milk are killed, fortunately, by heating milk to a temperature of 60° C. and keeping it there for 10 to 20 minutes. So that, if the milk is suspect, and it is *impossible* to get certified milk for a baby, the wisest course is to get the cleanest and freshest milk possible, and then to pasteurise it at home. This is easily done by putting the milk ready in the baby's bottles and placing them all in a saucepan containing sufficient cold

water to come half-way up the bottles. The water is then brought gently to the boil. As soon as it does boil, the pan is removed from the heat and left to stand for half an hour. The bottles of milk should then be removed and placed in the coldest water possible to chill the milk again. Finally, they should be placed in a vessel containing a little cold water, covered with butter-muslin, the ends of which dip into the water, and the whole put in a cool larder.

Experiments on rats have shown that raw milk is slightly better than pasteurised milk, so that older children should be able to take ordinary unpasteurised milk, even if it is not Certified. Rats fed on a diet of sterilised, *i.e.*, boiled milk, were definitely inferior.—*Health for All.*

## Apple in Dysentery

The use of fruit in the treatment of diarrhoea was advocated some 40 years ago and has been recently revived by Heisler of Koenigsfeld, Moro of Heidelberg and others. Moro used raw apple pulp with no preliminary treatment—no purgation lavage or initial water diet. One to four tablespoons of the apple pulp was given every hour or two hours for 48 hours, with no other food or medicine. If the patient is thirsty a little water or weak tea is allowed. If the apple alone is refused by the patient, banana pulp is added to the apple and this makes it more palatable.

P. A. Earnshaw (*Med J. of Aust.*) concludes that the raw apple diet is one of the greatest advances made in the treatment of dysentery. He has used it in some 50 cases of dysentery in children in private and hospital practice and cannot remember any patient whose motions were not normal in appearance in from 24 to 48 hours. In the beginning he forbade water but saw patients begin to look very ill without water and by adding water to the diet they improved. Sometimes when the patient tires of apple, thoroughly ripe bananas were used with equally good results.

Recently Earnshaw has been using an apple powder with equally good results; it is more easily measured than raw apple, can be left for long periods, can be procured when apples are out of season, and can be given to very young children who might otherwise refuse the raw apple.—*Medical Suggestions.*

## A Safety Code of Children

WHEN ON FOOT.

1. *Always stop* before crossing the road, look right and left and, if all is clear, cross quickly.
2. *Always stop* and look before running into the roadway on leaving school, or to fetch your ball or hoop.
3. *Always* cross busy streets where there is a policeman or refuge if you possibly can.
4. *Always* look out for vehicles turning corners.
5. *Always* look and listen for warning signals.
6. *Always* wait till the bus or tram stops before getting on or off.
7. *Always* guide younger children across the road.
8. *Always* walk on the right-hand side of the road when there is no footway.

9. *Never* run behind or hold on to motors, lorries, carts or other vehicles.

10. *Never* throw each other's caps or push each other into the roadway.

WHEN CYCLING.

1. *Never* ride on the step, crossbar or handlebar of another's bicycle.

2. *Always* keep your brakes and rear reflector in proper condition.

3. *Always* go slowly at cross roads and dismount unless you can see that the way is clear.

(*From "The Policewoman's Review," February* 1935.)

## Diet of the Athlete

A ABRAHAMS (*Practitioner*, December, 1934 p. 695) reviews the main principles of dietetics in connexion with athletics and training, pointing out that no foods possess specific powers to impart increased respiratory power or circulatory efficiency; that energy, stamina, strength, and endurance are not directly obtainable from concentrated comestibles; and that there is no call for a greatly restricted fluid intake. The food taken must be easily digestible, so that the heart and lungs may not be embarrassed by distension. To eat beyond the requirement of the natural appetite is a gross error. The author cites the astonishingly small food intake of the long-distance racing cyclists as an illustration of the fact that eating is often a matter of habit and not a true representation of the need for food. He rather doubts the depletion of the store of sugar in the body in the course of ordinary Marathon runs, despite the American findings of hypoglycaemia. He states that the final meal, at least two hours before the race, is prescribed by the experience of the kind and quantity of food that have been found to permit of extreme exertion with the maximum of comfort. The non-meat-eating athlete is a rarity; it would seem that for the large majority muscularity is best ensured by the proteins of meat. Abrahams is inclined to believe that vitamin B. enhances efficiency, and is sure that a liberal quantity of fluid is beneficial, if taken for the most part between meals. He regards alcohol as quite unnecessary to the athlete, but is uncertain whether tobacco smoking does so much harm as is often thought. Deprivation of it during training may even do harm to addicts, but here in individual athletic efforts the question may safely be left to the one concerned; in such corporate training as for boat-racing abstention is necessary for the sake of non-smokers.—*British Medical Journal.*

## SANITARY CONTROL OF AERIAL NAVIGATION

*To prevent the danger of carrying diseases from one country to another by aeroplane, most of the important countries of the world have signed an agreement for installing an organized medical service in connection with the aerodromes. This will examine all passengers and crew, and will prohibit any from embarking that have infectious diseases.*—THE TREASURE CHEST.

# Health Tit-Bits

**Underweight Advantageous for Persons Under Thirty.**—A survey of statistics of more than forty life insurance companies reveals the fact that the lowest mortality rate in persons over thirty years of age is found among persons who are five or ten per cent under average weight for persons of the same age. Underweight in persons under thirty, however, tends to lessen life.—*Good Health, U. S. A.*

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**Condiments.**—"In this fast age, the less exciting the food, the better. Condiments are injurious in their nature. Mustard, pepper, spices, pickles, and other things of like character, irritate the stomach and make the blood feverish and impure. The inflamed condition of the drunkard's stomach is often pictured as illustrating the effect of alcoholic liquors. A similar condition is produced by the use of irritating condiments. Soon ordinary food does not satisfy the appetite. The system feels a want, a craving for something more stimulating"—"*Ministry of Healing*", *page 325.*

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**What World Dictators have done towards Health and Diet Reform.**—Herr Hitler is reported to have banned lipstick, rouge, powder and all other artificial aids to feminine beauty. In a decree dated 7th March, 1933, these words are found:—"The German woman must revert to the type of the Germanic mother. A female running around rouged and painted has no right to call herself a German and cannot possibly be a National Socialist". This policy however is condemned in Mussolonies' own paper 'Popolo d'Italic' wherein it is said: "Any power whatsoever is destined to go on the rocks when it encounters fashions. If fashion decrees short skirts, you will not succeed in lengthening them not even with the guillotine or, even worse, you will fall into ridicule. Revolutions must guard themselves against ridicule".

* * *

Kemal Pasha changed the headgear of Turkey by a dictatorial decree.

* * *

"In 1925, Mussoloni ordered the women of the Italian nobility to break the rule of Paris in women's fashions by reviving the loose long beautiful robe of the ancient Roman matron.

* * *

At the dictates of Il Duce, Mr. Marinetti is said to have carried throughout Italy the slogan 'Down with spaghetti; Down with macaroni' Instead potatoes and rice were recommended.

"In 1932, he ordered the Italian Medical Congress to see that excessive dieting for reducing among women be stopped. He said to the doctors, excessive dieting weakens the race and also has economic reactions. I am deeply concerned that our mode of eating, working, dressing, sleeping and our whole system of daily habits be reformed.—Excerpted from '*The Oriental Watchman and Herald of Health.*

# Correspondence

*Public Health Department*

*From* Lt. Col. C. M. GANAPATHY, M.C., I.M.S.
*Director of Public Health, Madras.*

To

The Editor, "Health",
Thambu Chetty Street,
Madras, 31st May 1935.

Sir,

I shall be greatly obliged if you could publish the enclosed copies of letters from the Honorary General Secretary of the Far Eastern Association of Tropical Medicine together with this letter in your esteemed journal with a view to invite the attention of the members of the medical profession in this presidency to the subject of Nutrition. The subject of Nutrition, you will agree, has of late attracted the attention of the medical world, and, now that the Far Eastern Association of Tropical Medicine, has officially decided to bring it up for discussion at its next congress, it appears to be highly desirable that the members of the medical profession, both official and non-official, should be able to contribute something on the subject.

All correspondences on this may be addressed to me at 81, Mount Road, Cathedral P. O., Madras.

C.M. Ganapathy, Lt. Col., I.M.S.,
*Director of Public Health, Madras.*

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## FAR EASTERN ASSOCIATION OF TROPICAL MEDICINE

W. F. THEUNISSEN,
*Hon. Act. General Secretary, and Act. Dir. Publ. Health Service of The Netherlands Indies.*

BATAVIA (Centrum),
PARAPATTAN 10.
*1st May 1935.*

To

The Director of Public Health,
Madras.

Dear Sir,

During the second Council Meeting of the 9th Congress of the Far Eastern Association of Tropical Medicine at Nanking, Dr. de Langen (Batavia) proposed, seconded by Dr. Kuno and endorsed by Col. Russell, that the question of nutrition on its widest sense, being of such very great importance in the Far East, should be specially brought before the next Congress, as a main subject. Dr. de Langen had had no time to discuss the matter beforehand with Dr. Rosedale, but would do so on his return to Netherlands India, and proposed that two or three rapporteurs should assemble material dealing with this matter and send it in before the next Congress.

This proposal was agreed to unanimously.

Consequently, the following resolution was passed : 'That in view of the importance of the food-factor in diseases, a section on Food Problems be added to the programme of the next Congress '

The outcome of the discussions between Dr. de Langen and Dr. Rosedale has been the composition of a circular letter, a copy of which you will find enclosed herewith.

In order to obtain good co-operation I wish to suggest that you have the circular letter published in the local medical periodicals of your country.

(2)

Instituut Voor Volksvoeding
Institute for Nutrition Research,
Batavia (Java).

Secretariaat : V. Heutszboulevard 12.

At the next Congress of the Far Eastern Association of Tropical Medicine it is proposed to hold a round-table discussion on nutrition, and we have been asked by the Council to make preparation for it.

Papers are invited upon Nutrition from the widest point of view and we should be glad if you will be so good as to ask trained observers who are working on any aspect of the subject in your country, whether they will kindly contribute to the discussion by reading a paper on their work under any of the sub-headings below.

If suitable support is forthcoming, it may be possible to combine the papers received and the discussions in a volume, which would constitute an up-to-date account of Nutrition as concerns the East.

It is hoped that some indication of the support which may be expected from your country may be received during 1935, though it will not be necessary for titles of papers to be sent in until a later date which will be notified in due course. Such co-operation will enable the Council to know how much time should be allotted for the discussion.

It has been proposed to divide papers under three headings as follows:—

I. **Economics**: To include such aspects as Agriculture in relation to human nutrition, *e.g.*, improvement of yield and quality of food crops; horticulture; fruit-growing; stock raising; dairy problems; institutional feeding: food surveys; storage: cooking, etc.

II. **Chemical and physiological**: To include food analyses in the widest sense; vitamin, mineral, fat, protein studies etc., metabolism, basal metabolism, energy requirements, specific dynamic action.

III. **Clinical**: Studies of disease in relation to food and diet, the feeding of infants during the first year with special reference to development (height and weight); children's diseases in relation to food; nutritional oedema, atypical beriberi; the course of infectious diseases under the influence of food; liver cirrhosis; anaemias; skin diseases in relation to food and vitamins: ulcers of the leg; leprosy in relation to food; constitutional diseases, diabetes, obesity, gallstones, gastric ulcer, etc., clinical value of certain foods etc.

It should be understood that the above provisional programme is intended to be as wide as possible, and that additional suggestions from those able to make them will be welcomed. It is hoped that the subject of nutrition will receive emphasis from the general and normal point of view as well as from the point of view of disease.

(Sd.) C. D. DELANGEN,
J. L. ROSEDALE.