

Nutrition for Nurses

Nutrition and Human Welfare

By

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Nicotinic Acid (Niacin).

Nicotinic acid also helps the body to obtain energy from carbohydrates. Insufficiency of this vitamin will lead to :

1. Checked growth in children,
2. Skin will become red and rough especially along the symmetrical portions like the palms exposed to the light (Dermatitis),
3. Tongue will become red and sore,
4. Diarrhoea and digestive upset,
5. Mental confusion and dementia,
6. Finally pellagra, a multiple deficiency disease occurs. It is called disease of 3 D's—Diarrhoea, Dementia and Dermatitis.

'Pellagra' was named in 1771 by an Italian doctor—meaning agro—rough pelle—skin. Fortunately this disease is not very common in India. Originally it was thought to be an infectious disease. Dr. Goldberger in the USA proved that this was a disease of dietary origin by effecting recovery of pellagrains through feeding eggs, milk and meat.

Sources of Niacin.

Liver, mutton, organs, brain, groundnuts, potatoes, leafy vegetables, milk, eggs and yeast.

Requirements.

4-17 mgs. for children and 10-18 mgs. for adults per day.

Other Members of the B Group of Vitamins.

We know very little about the value of many of the other B. Vitamins for human beings. Phylloxerine is necessary for growth of young animals and for the metabolism of amino acids in the body. Pantothenic acid is believed to be needed for the health of the skin. Folic acid

prevents some macrocytic anæmias and Vitamin B₁₂ is claimed to be an anti-pernicious anæmia factor. Deficiency of Choline leads to fatty liver and para-amino—benzoic acid is an antagonist for sulphanilamides.

Yeast, groundnuts, wheat germ, milk, egg yolk and leafy vegetables are good sources for this group of vitamins.

Vitamin C (Ascorbic Acid).

A few centuries ago, scurvy was very prevalent in Northern and Central Europe. Their diets had very little fresh fruits and vegetables. Gradually it was found that fresh plants manifested anti-scorbutic properties. It was on ships however, scurvy was most apparent and was attributed to causes such as eating salt meat, exposure to sea air or lack of exercise. Captain Cook contributed a great deal towards the discovery of Vitamin C. He used lemons, oranges and fresh vegetables to treat scurvy.

Ascorbic acid is necessary for forming the fibrous and cementing materials which bind cells together (intercellular substance). Thus it maintains the strength of the walls of the capillaries, prevents hæmorrhages of the gum, skin, periosteum and bone. Along with vitamin P it prevents capillary permeability. It is involved in the maturation of the red blood cell, the absorption and utilization of dietary iron and the maintenance of normal blood hæmoglobin level. It helps in the metabolism of some amino acids and in the production of adrenocortical hormones. It works with vitamin A in maintaining growth in young. It speeds up wound healing, gives strength to growing bone and cartilage and assists the enzymes working in depositing calcium salts. In its absence the following ill effects arise :

1. Arrest in growth of children,
2. Bleeding and susceptibility to infection in gums and mouth,
3. Retarded healing of wounds and fractures,
4. Scurvy.

Children sometimes suffer from a combination of scurvy and rickets.

Scurvy is the classical manifestation of severe vitamin C deficiency. It is characterised by weakness, spongy gum, loose teeth, resorbed dentine, swollen tender joints, and hæmorrhages in various tissues. Babies cry of pain and alarm when the joints are touched.

Food Sources.

Vitamin C mainly occurs in the vegetable kingdom—fresh fruits and vegetables. It is easily destroyed by cooking, heat and oxidation.

Green leafy vegetables, cabbage, cauliflower, citrous fruits, potatoes, apples, guavas, amla, sprouted grams, liver, tomatoes and strawberries are good sources of this vitamin.

Requirement.

30-50 milligrams for children and 50 milligrams per day for adults have been recommended by the Nutrition Advisory Committee of the Indian Research Fund Association.

Inter-Relationships between Vitamins.

More and more evidence is now available to show that the vitamins and other nutrients are inter-dependent for their activities in the body. The members

of the B Complex group, thiamine, riboflavin and niacin assist each other in many phases of metabolism. Vitamin A and Vitamin C work together for normal bone development and smooth skin. Vitamin A and riboflavin jointly maintain healthy skin growth and reproduction. Chronic thiamine deficiency lowers the retention of riboflavin in the body. Vitamin E increases the efficiency of utilization of carotene and vitamin A and prevents their destruction by oxidation.

Antivitamins.

In certain foods, some factors are present which work against the vitamins.

Some fish have a thiamine destroying enzyme in them. Raw white of egg has Avidin, which is antagonistic to Biotin. Dicoumeryl in certain leaves works against Vitamin K. Some anti-malarial drugs have factors against pantothenic acid. Sulphanilamides are opposed to para-amino benzoic acid.

Caution in taking single vitamin preparations.

Since all the vitamins work in harmony in the body, and in co-operation with the other members, excess intake of a single vitamin might upset the balance and lead to complications. Nature has provided many of these vitamins in the best combinations in certain foods. It is always desirable to depend on the natural foods in our diets for our daily supplies of the vitamins. Large doses of vitamins should be taken only in extreme deficiency cases under the guidance of physicians.

(To be continued)

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programme of activity. It is hoped that the leadership given by the Delhi State will prove as an incentive for other States to follow suit and thus implement the recommendations approved by the TNAI Council, at an early date.

The bye-laws for the Public Health Section are ready to be scrutinised by the TNAI Council at its meeting to be held at the time of the Annual Conference in Lucknow in October, and it is hoped that it will be published in *The Nursing*

Journal of India as soon as possible after it has been approved.

I shall be very happy to hear from you and to help you in any way I can in forming State Branches.

With best wishes.

SD/- M. KORAH

Chairman

Public Health Section of TNAI.

[Note: Miss Korah has resigned the Chairmanship of this Section.—Ed.]