

Nutrition for Nurses

Nutrition and Human Welfare

By

Rajammal P. Devadass, M.Sc., M.A., PH.D.

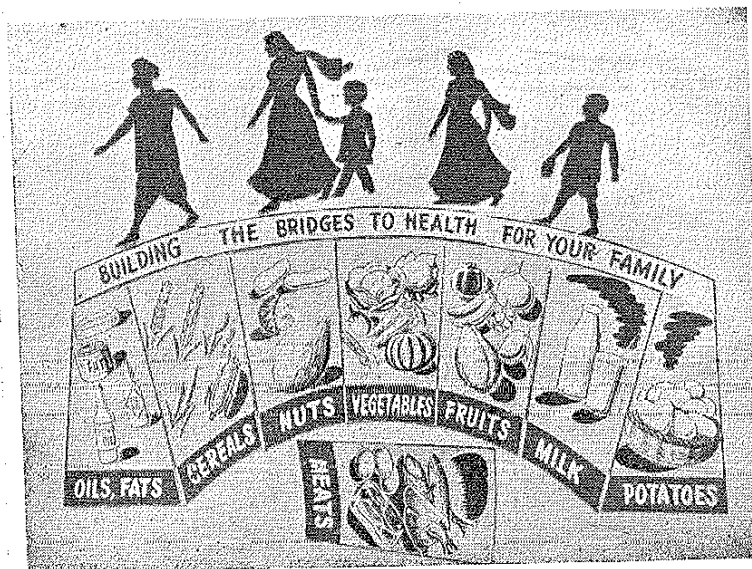
Vitamins

"Vitamins" are common words everywhere today. There is no more mystery about them. Nurses handle them in the ward and see their effects on the recipients.

Scientific men of the 18th century thought that there was only one kind of food principle in all the foods consumed and that alone nourished the body. By the beginning of the 19th century they came to a different finding which pointed out the existence of several kinds of nutrients in foods, namely, carbohydrates, fats, proteins and minerals. Even then, the story was not complete, because something yet was found to be lacking in a diet which was composed of the above

mentioned nutrients. Sir Frederic Gowland Hopkins of Cambridge (England) showed by actual experiments as early as 1906, that animals could not live on a mixture of pure carbohydrates, fats, proteins and minerals. However, an addition of small quantity of milk to the mixture of pure foods made a great difference in maintaining life and promoting growth. It was thus proved that in purifying natural foods some things essential to life and growth were removed and milk supplied these essential factors. Further work revealed that milk had these important factors both in its fat and water contents. They were first called "Accessory Factors" and the terminology "Fat Soluble A" and "Water Soluble B" were built later. It was Casimir Funk who in 1912

coined the world famous word "Vitamine" for the "Accessory factors". He thought that all those factors had "Amines" (nitrogenous compounds) in their composition and they were "Vital" for life. Later it was found that all vitamins were not amines and hence the modern term "Vitamin" with the last "e" omitted has come into vogue.



As more and more Vitamins are being discovered, the individual members of the fat soluble and water soluble groups are designated by the letters of the alphabets A, B, C, D, E and so on.

Vitamins are also referred to by the functions they perform in the body. For example, Vitamin A is called *antixetophthalmic*, Vitamin B is called *antineuritic* and Vitamin C is called *antiscorbutic*; vitamin D is known as the *antirachitic* vitamin. The fat soluble vitamins known so far are A.D., E and K-7. The water soluble vitamins are more numerous, comprising all the B group of vitamins, and C.

Vitamins are organic substances, present in small quantities in foods, necessary for the life, growth and normal health of the body. The human body is unable to produce them for itself and is therefore dependent on the foods for obtaining the vitamins.

Our first knowledge of vitamin A came in 1912 from the observation that animals restricted to certain experimental diets failed to thrive and progressively showed severe malnutrition. Their tear glands stopped secreting tears, the eyes became dry, eyelids swollen and pasted with a sticky exudate. Then ulcers formed on the cornea, which eventually rupture. This condition never occurred when certain fats like cod liver oil, butter or egg yolk fat were given in the diet; but were observed when olive oil or almond oil were substituted. Prior to these experiments, all fats in foods were considered to be of the same nutritional value. The discovery that they differed in that some contained a nutrient (which we now call vitamin A) while others did not, was a landmark in nutritional research.

Vitamin A is found in certain fats and the fatty parts of some foods. It can be formed in the animal body from a yellow coloured pigment called carothene found in green and yellow vegetables and yellow fruits. Vitamin A is necessary for the growth of children. It prevents night blindness because it is important for the regeneration of visual purple in the retina

of the eyes. Visual purple helps the eyes to see in dim light.

Vitamin A protects the epithelial tissues all over the body: In the eye, along the respiratory tract, on the skin, the pelvis of the kidney, the genito urinary tract and the alimentary canal. Thus it is an antixepophthalmic antikerationization, (protecting eyes) and anti-phryroderma (protecting skin) vitamin. When the covering epithelial cells of any structure in the body are deranged due to shortage of Vitamin A disease producing organisms gain easy access into the body, causing infections. Thus Vitamin A is a 'Resistance giving' or "anti-infective" vitamin.

Vitamin A helps in the formation of healthy enamel in the teeth along with calcium, phosphorus, Vitamin D and Vitamin C. If it is deficiency in the diet, defective enamel and frequent occurrence of caries will be common.

The reproductive cells are specialized epithelial cells. In Vitamin A deficiency, sterility occurs because of the fact those epithelial cells are injured.

Food Sources of Vitamin A.

Animal Foods : Cod liver oil, milk, butter, cream, egg yolk and liver.

Vegetable Foods : Green leafy vegetables, carrots, yellow vegetables and fruits, tomatoes, oranges, peaches, and red palm oil.

Vitamin A is more easily absorbed than carotene. It is stored in the liver in appreciable amounts and can be used from there in times of shortage. Liver plays an important function in the utilization of Vitamin A. Therefore liver diseases may lead to deficiency states like night blindness, although the food might carry sufficient quantities of vitamin A. Hence, we give concentrated fish oils in conditions of cirrhosis of the liver. Since vitamin A is a fat soluble nutrient, diseases which interfere with the normal fat absorption also lead to vitamin A deficiency.

Vitamin A is destroyed when exposed to light and to oxygen. Cooking at low

Psychiatric Nursing Orientation at Nur Manzil — (Contd. from page 227)

three months? And no doubt you have guessed the answer. She cannot. The average length of course for a nurse who plans to specialize is one to one and a half years; or if she plans to take her Master's Degree in the field, two years. Three months is only an orientation, a bare sampling of the psychiatric nurse's task.

And now you ask, "Of what value could that orientation be to a nurse who plans to work only in a general hospital?" The same insight and the same approach which is effective in helping the emotionally disturbed patient in a psychiatric centre is equally effective in helping the emotionally disturbed patient on a surgical or an obstetrical ward. Every physical illness has its concomitant emotional strain and symptoms, and many physical symptoms are purely emotional in origin.

The nurse who has seen the symptoms in exaggerated form in a psychiatric unit is better able to recognize and cope with those which appear in milder forms in a general hospital. The aim of the modern nurse is to minister to the total needs of her patient, not just his fever or his broken bone.

Some day when India has time to recover from the growing pains of being a new independent nation, when the basic necessities of life can be met for every citizen, when physical care is available for all, then the problems of mental hygiene and psychiatric care can be attacked with full force. In the meantime the seeds of the best possible care available must be kept alive, and workers prepare themselves to assume responsibilities as new facilities are opened. Would you like working in this exciting new field? I do.

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temperatures in covered utensils, will help to retain the vitamin in foods.

Requirement of Vitamin A.

The term "international unit" is used for the measurement of Vitamin A. One I.U. of Vitamin A is equivalent to 0.6 micrograms of betacarotene. One microgram is one thousandth of a milligram. The daily requirement for Vitamin A larger from 3000 to 4000 International Units for all people—children, adolescents, adults and old persons. Normally, this amount can take care of the increased needs in pregnancy and lactation although 3000-4000 units sounds a large amount, it is only 1.8 to 2.4 milligrams of carotene. This amount can be easily obtained from 2 oz of any of the green leafy vegetables or carrot, 4 ozs. of liver, 1.2 teaspoons of cod-liver oil, 4.5 tomatoes or 6 cups of milk.

(To be Continued)

