

Local use and abuse of Minerals and Vitamins.

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The importance of the environment in Medicine is recognised universally; yet it is often forgotten by the medical practitioner. There is at present a craze for prescriptions of Calcium and Vitamins, with little consideration as to whether the material can be supplied equally well by the environment at no expense. When the cost of living is high, every shilling counts in the budget of a family with a low income.

There is in fact the possibility of obtaining full amounts of Vitamin D by simple exposure to clear sunshine. The uses of costly artificial ultra-violet rays or of Vitamin D concentrates by mouth are only substitutes for use in countries where exposure to sunshine is short or where the atmosphere is not clear enough. In Malta artificial methods can, and should, be restricted to cases where exposure to sunshine is insufficient or impracticable. Rickets does exist in Malta too; before encouraging the use of costly Vitamin D concentrates, the possibility of using sunshine as a preventive and curative should be explored further. It may be a wise step if the public funds directed to subsidise unnecessary Vitamin D preparations should be diverted to help organising research in the social causes of local Rickets. Most of the Rickets is the effect of traditional fear of exposure to sunshine, of excessive clothing and of bad housing. The prescribing of Vitamin D concentrates is a costly and short-sighted substitute to an intelligent and painstaking drive to improve the education and habits of the mother.

Vitamin A concentrates are equally wasteful. Clinical evidence of Vitamin A deficiency is locally non-existent. Vitamin A can be obtained cheaply and adequately

through foods in widespread local use, as tomatoes, tomato-paste, several vegetables etc. The liver can build a good store of the Vitamin to last several months, so that a low intake during some part of the year is not harmful.

The water-soluble vitamins present quite a different picture. It is probable that some of them, Riboflavin in particular, are deficient in the diet of many families with a low income; yet the water-soluble vitamins are the least prescribed in Malta, possibly because we hear less about them from the literature of other countries or from commercial propaganda.

In discussing the use of medicinal Calcium, first consideration goes to the diet. An investigation into the household expenditure held in October 1946 has shown that a Maltese average household, with an expenditure of £2-8s.-5d. per week on food, consumed an average of 14,308 Calories per day with a content of 3 gms. of Calcium. Further amounts of Calcium must have been taken with tap-water which contains 57 mgms. per litre. The amount of water ingested is usually computed as 1 millilitre of water per calorie of food consumed, but the amount can even increase to five-fold during work or in hot weather. An ingestion of 1.5 millilitre of water per Calorie (inclusive of water contained in prepared foods) would give an intake of Calcium to the average household of 1.2 gm. of Calcium per day. The resulting total of at least 4.2 gm. per day equals the optimum requirement of a family of five.

Apart from the fact that the average Maltese family numbers more than five persons, it is probable that the per head con-

sumption of Calcium-rich foods (cheese, milk, pulses, small fish, etc.) falls in inverse ratio to the size (and poverty) of the family. Pregnancy and lactation call for extra calcium to meet the requirements of the growing child. There is therefore suggestive evidence that members of large families are short of Calcium in spite of our calcarine environment. It is probable that those mothers who can afford tablets of medicinal Calcium do not need it, as they get enough of it from their foods and tap water; while members of large families with a low income, may have to go often without the more important Protein foods, if they are to get the medicinal Calcium which is prescribed to them. If expense has to be incurred, it may be wiser to insist on more cheese and other calcium-rich foods (even skimmed milk) and to supplement further with tap water, than to prescribe Calcium to anaemic, underfed individuals in poverty. Socially put, the question arises: Should we supply free medicinal Calcium to the large families of the poor or would it be advisable to fortify the bread with Calcium, as it is done elsewhere?

Iron supplies offer a still greater problem. The normal adult male does not need more than a trace of Iron intake; but the female must compensate for her monthly losses, and for her pregnancies, abortions, haemorrhages and lactations. Iron deficiency is widespread among women of the child-bearing age even in countries with a low birth-rate. It is the more so in Malta, where the birth-rate is high. Deficiency of Iron in the mother goes down as nutritional anaemia in the infant and this persists in the growing child unless the Iron deficiency is adequately corrected and the needs of Iron sufficiently maintained by suitable foods. It is obvious that Iron shortage is the big deficiency condition of Malta; and yet the administration of Iron is falling out of fashion! and free supplies to the poor are still few, often run short and the dosage is therapeutically too low. Worse still, the public has heard so much about Calcium and Vitamins that mothers buy Calcium and Vitamins on their own

even when Iron is needed. Iron is objected to on the grounds that — it blackens or harms the teeth, or causes blood pressure to run high. Patent preparations are in widespread use. Some of these may contain Iron, but usually in too small dosage; others are but an alcoholic concoction with a catchy name, and not worth the bottle in which they are sold (and at what high prices!).

Mistaken notions on food values aggravate the situation. There is a widespread belief that eggs are the panacea for under-feeding, anaemias, deficiencies, debilities and all that. Actually $1/8$ of a rotole of meat, or half a bottle of Pasteurised milk have a nutritive value in Calories, Proteins, Calcium and Iron which is about two or three times higher than that of an egg. The disadvantages of eggs in view of their usually high cost are obvious. Tinned milk is much poorer in Iron, as Cow's milk has only $1/7$ the Iron content of Goat's or Sheep's milk, and less proteins too. A good food difficult to obtain, is liver; but the advantages of liver extracts by mouth or by injection are not proportionate to their cost, unless a few rare diseases are present. Nutritional anaemias can usually be treated only by Iron and a suitable diet; unnecessary preparations are wasteful and may even do harm where poverty exists, as the financial effort may lead to economy in other essential articles.

The aim of this article is to show that there is full scope for investigation in our local problems; that funds are being mis-directed to obtain what already is available or can be otherwise easily obtained, whilst what is really required is being left out; that the public is in sore need of education in Dietetics, and that encouragement by those who are at the helm of financial affairs to enable an expert to carry out research on these lines may give fruitful results. It is to be hoped that medical students will not tread on the old beaten misleading tracks after they have qualified.