

10 July 2012

Mumbai

I have learned that blindness, brought about by severe Vitamin-A deficiency - is a significant problem here in India, more so than in many countries, but it is also a significant problem in Africa and ASEAN. I know many people here eat roti and dal several times per day, and I happen to like those myself. But I am fortunate enough to have a diet that includes plenty of other fresh things while there are those in India who cannot afford even these staple foods to keep the bellies of their children full.

From my review of information on the internet, I provide some technical clips below from Wikipedia to explain more of the technicals. But I have also searched the Duke database on the internet to find sources of one of the components of Vitamin A (Beta-Carotene) and Zinc, which is needed for the body to properly assimilate it for use in the body.

I looking through the lists, two stood out as sources of both – carrots and spinach. While these are both common and easy enough to grow in a home garden, not everyone favours them as much as they should. Both are excellent sources of many other good things. From another site – “Worlds healthiest foods” – I provide more...

- **A quarter-cup of cooked spinach gives 100% of the adult daily recommendation of Vitamin A and only a little zinc (about 2%).**
- **A quarter-cup of raw carrots gives 100% of Vitamin A and a small amount of zinc, perhaps 1%.**
- **A quarter cup of either sesame seeds or pumpkin seeds provides 15-20% of daily zinc zinc to help make up for this. A full cup of oats has about the same zinc (15%) and plenty of other good things.**

There is poster at the Reliance offices where someone in the Ambani family wants more people to sign up to donate their eyes after they die so that someone blind can see again. I believe it prudent in all cases to prevent disease rather than to seek a cure for a symptom. In this case, more carrots, spinach and pumpkin seeds in the home gardens and kitchen stocks of the poor would do nicely.

I wrote to you some months back from South Africa about natural sources of antibiotics. Garlic, onions and nasturtium for the older folks, watermelon for the young. If you do not have that readily available, I can find it again and re-post it to you.

In developing the Hindi materials for village libraries, we can include a few 1-page specials on salt, this topic for eye-health (Vit A and zinc do far more than this) and also on

antibiotics. Please include this in a shorter form in what you are developing the village libraries in rural India.

I saw visited a slum here where “each house for themselves” was the attitude. It is both regrettable and understandable under their circumstances. Let us include the materials in a form that addresses the issues in the context of “village gardens” tended by several to ensure the children grow healthy. And leave it them whether they want to protect a communal garden of some breadth, or exist with only the smallest plots and planters they can each develop alone.

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FROM WIKIPEDIA

http://en.wikipedia.org/wiki/Vitamin_A#Deficiency

Vitamin A deficiency is estimated to affect approximately one third of children under the age of five around the world. It is estimated to claim the lives of 670,000 children under five annually. Approximately 250,000–500,000 children in developing countries become blind each year owing to vitamin A deficiency, with the highest prevalence in Southeast Asia and Africa.

Vitamin A deficiency can occur as either a primary or a secondary deficiency. A primary vitamin A deficiency occurs among children and adults who do not consume an adequate intake of provitamin A carotenoids from fruits and vegetables or preformed vitamin A from animal and dairy products. Early weaning from breastmilk can also increase the risk of vitamin A deficiency.

[...]

Zinc deficiency can also impair absorption, transport, and metabolism of vitamin A because it is essential for the synthesis of the vitamin A transport proteins and as the cofactor in conversion of retinol to retinal. In malnourished populations, common low intakes of vitamin A and zinc increase the severity of vitamin A deficiency and lead physiological signs and symptoms of deficiency. A study in Burkina Faso showed major reduction of malaria morbidity with combined vitamin A and zinc supplementation in young children.

From :: http://en.wikipedia.org/wiki/Vitamin_A

Vitamin A (or Vitamin A Retinol, retinal, and four carotenoids including beta carotene) is a vitamin that is needed by the retina of the eye in the form of a specific metabolite, the light-absorbing molecule retinal, that is necessary for both low-light (scotopic vision) and color vision.[1]

[...]

The carotenes alpha-carotene, beta-carotene, gamma-carotene; and the xanthophyll beta-cryptoxanthin (all of which contain beta-ionone rings), but no other carotenoids, function as vitamin A in herbivores and omnivore animals, which possess the enzyme required to convert these compounds to retinal. In general, carnivores are poor converters of ionone-containing carotenoids, and pure carnivores such as cats and ferrets lack beta-carotene 15,15'-monooxygenase and cannot convert any carotenoids to retinal (resulting in *none* of the carotenoids being forms of vitamin A for these species).