

Food for thought

Lemon it is. That and garlic, virgin olive oil and the African potato, and presto, we have the answer to HIV/AIDS. Of course nutrition has played a big part in the written history of Africa. Vasco da Gama was first to sail to India around the Cape in 1497. Some 100 of his crew of 160 succumbed to the ravages of scurvy. In 1652 that well-known market gardener, Jan van Riebeeck, established a victualling stop in Cape Town for the Dutch sailors on the spice route to the East. However, the discovery of the cause of scurvy is ascribed to the physician James Lind, who is considered to be the founder of naval hygiene in England. When he published his work on scurvy in 1754 more British sailors died of scurvy during wartime than were killed in combat. His recommendation that fresh citrus fruits and lemon juice be included in the diet of seamen resulted in the eradication of scurvy from the British navy. Nearly two centuries before this the Dutch had discovered the beneficial effects of citrus fruits and juices on sailors on long sea voyages — hence Cape Town. These lessons were well known when Robert Scott made his unsuccessful bid to be the first to reach the South Pole in 1911/12, but poor planning resulted in his party developing scurvy, unlike the successful team led by Roald Amundsen from Norway.

Scurvy is but one of the diseases of malnutrition, which result from an imbalance between the body's needs and its nutritional intake. Recent reports in the *SAMJ* have addressed the burgeoning burden of obesity in developed countries, but also in South Africa. Less frequently reported in South Africa is starvation, which is the most severe form of malnutrition. However, community care workers and nurses who report on their visits to AIDS sufferers in rural and urban areas move hardened hearts to tears. Their patients are unable to take medication for their ailments on their empty stomachs, as they simply have no food to eat. Their children are emaciated, but how can they be fed when their 'healthy' neighbours too have nothing to eat?

In 1992 the US Department of Agriculture proposed a Food Guide Pyramid as a guide to a balanced diet. In this pyramid the base comprises cereals, with 6 - 11 servings; next are fruits and vegetables with 2 - 4 and 3 - 5 servings respectively; then dairy and meat products with 2 - 3 servings; while the apex lists fats, oils and sweets, to be used sparingly. The very poor are fortunate if they get enough food listed at the base of the pyramid, let alone any of the other components. The health of the individual is significantly determined by his or her nutritional status. This applies particularly to those with HIV/AIDS, whose nutritional needs are much greater than those of healthy people. What are the implications of recommendations to purchase the items mentioned at the beginning of this article, since they are relatively costly, and what is their potential benefit? Readers are referred to the website of the Nutrition Information Centre of the University of Stellenbosch (www.sun.ac.za/nicus) for more detailed

information. The website also supplies scientifically validated dietary recommendations to counterbalance the plethora of strange fads and diets advocated to promote health and cure disease.

Garlic has been known since antiquity — it has been cultivated for culinary and medicinal purposes for 5 000 years. Despite promising *in vitro* studies of the effect of garlic on the immune system and its activity against some viruses and fungi, there are no human studies to date that provide proof that garlic can improve immunity. Its use in the management of hypercholesterolaemia is debatable in view of the marginal nature of the beneficial effect. Human studies of garlic supplements report it to be relatively well tolerated, the only side-effects being mild gastrointestinal discomfort as well as the presence of an undesirable body odour. An increase of bleeding in some healthy individuals who took raw garlic for 2 months was reported, and it is therefore recommended that persons on antiplatelet drug therapy and those who have to undergo surgery should discontinue taking garlic. In relation to HIV/AIDS, garlic supplements have been documented to induce drug-nutrient interactions, notably sharply reduced blood levels of saquinavir.

Extra-virgin olive oil is a dietary product obtained from the whole fruit by using a press technique, which does not alter the chemical nature of the fruit-pulp or of the resulting oil. There is no convincing scientific evidence that virgin olive oil boosts immunity or alters the course of HIV/AIDS adversely or beneficially. When the poor purchase the product, its price limits the purchase of other wholesome foods, which in turn is likely to adversely affect their nutritional status.

The African potato (*Hypoxis* species) has been claimed to have anticarcinogenic properties. These have not been substantiated and the safety of the plant extract has been questioned and is of serious concern. The Medicines Control Council prematurely terminated a study on the safety and efficacy of the *Hypoxis* plant extract in HIV-positive patients because of bone marrow suppression. The suspicion of *Hypoxis*-induced immune suppression has been confirmed experimentally in the feline immunodeficiency virus model.

There is currently no convincing evidence that any of these foods alter the course of disease. It is therefore undesirable to raise false hopes by ill-considered advice until supporting data are available. Food, we thought? — the answer's a lemon.

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