Gavin Publishers
Food & Nutrition Journal
Volume 1; Issue 02
Lonsdale D.
ISSN: 2575-7091

Editorial

A Comment on the Nutritional State of America

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Citation: Lonsdale D (2016) A Comment on the Nutritional State of America. Food Nutr J 1: 108. DOI: 10.29011/2575-7091.100008

Received: 27 May, 2016; **Accepted:** 02 July, 2016; **Published:** 16 July, 2016

Editorial

Nutritional deficiency is widespread throughout the world and often associated with starvation. Most of this is due to economic disadvantage and overcrowding. In the developing world, bad cooking habits may also account for this problem. Although this form of malnutrition certainly exists in the United States, a common form is associated with moderate affluence and is related to ingestion of simple carbohydrate in all its different forms. Because thiamine is a major factor in the metabolism of glucose, it has long been known that ingestion of simple carbohydrates, processed in the body to glucose, automatically increases the need for dietary thiamine. Thus, high calorie malnutrition is commonly associated with relative thiamine deficiency, irrespective of its fortification in food substances.

It has been said that those who ignore history are forced to repeat it. Thiamine deficiency, now known to be the cause of beriberi, existed in Eastern cultures for centuries. With the rise of affluence in Japan, people began to consume white rice. The cusps around the grain were removed by milling because it looked better on the table and milling was expensive. What they didn't know was that the cusps contained the vitamins, essential to the metabolism of the grain. The grain is just starch and provides the calories. The ancient Romans kept their wine and fruit juice in lead glazed jars. The lead leeched out into the wine, making it taste unusually sweet. The sweet taste encouraged wine consumption, thus causing the accumulation of lead. There is evidence that lead poisoning was an important part of the decline and fall of the Empire. With the moderate affluence that exists in America, there is a huge consumption of sugar in many different forms and it is giving rise to a common illness that is not being recognized as due to thiamine deficiency. Both cultures represent hedonism, the love of pleasure. Could we, in the long run, be imitating the decline and fall of the Roman Empire? A cultural phenomenon of this nature is blind to warnings.

John Yudkin, a professor of nutrition in a major London hospital, published a book entitled "Sweet and Dangerous" in 1973. He was able to show much evidence that the ingestion of sugar was responsible for many diseases, including cardiovascular disease, even questioning whether it had a role in the cause of cancers. The Warburg effect has been known for 100 years or more and thiamine deficiency often occurs in advanced cancer. The evidence available today indicates that is the high glucose/thiamine-magnesium ratio that is the underlying cause from sugar and alcohol consumption and that the ensuing condition is really beriberi in disguise. There are many symptoms of beriberi, none of which are pathognomonic.

It is well-known that the limbic system, cerebellum and brainstem are highly sensitive to thiamine deficiency, producing lesions that are virtually the exact imitation of hypoxia. This is why thiamine deficiency is sometimes referred to as a state of pseudo-hypoxia. Hypoxia or pseudo-hypoxia affect the hypothalamic, endocrine, autonomic axis (HEAA), producing a state of dysautonomic function that represents the early stages of beriberi. Because vitamin deficiency of any sort has largely remained in limbo, it is diagnosed as postural orthostatic tachycardia syndrome (POTS), one of the conditions incorporated under the heading of dysautonomia. The current opinion is that all forms of dysautonomia are genetic in origin, but beriberi is a prototype for this group of diseases, each of which is presently considered to be genetically determined in its own right. Unfortunately, because the modern standard laboratory tests do not take nutritional substances into consideration, they are frequently completely normal. This gives rise to the concept that the variable symptoms are psychosomatic in origin.

The first national statistics on mortality for beriberi in Japan was in 1899. The mortality per hundred thousand populations varied between 16 and 30. Thus, the vast majority

of patients did not look malnourished and it often occurred in robust manual laborers, so it can be thought of as the great imitator of many current conditions that haunt the physician's office in America.